A STUDY TO ASSESS THE EFFECTIVENESS OF THERAPEUTIC BACK MASSAGE IN PROMOTION OF SLEEP AND REDUCTION OF PAIN AMONG POST CABG PATIENTS ADMITTED IN SREE MOOKAMBIKA MEDICAL COLLEGE HOSPITAL, KULASEKHARAM.

A DISSERTATION SUBMITTED TO THE TAMIL NADU DR.M.G.R.MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

OCTOBER 2017

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Internal Examiner

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BONAFIDE CERTIFICATE

This is to certify that the dissertation entitles **"A study to assess the effectiveness of therapeutic back massage in promotion of sleep and reduction of pain among post CABG patients admitted in Sree Mookambika Medical College Hospital, Kulasekharam**" is a bonafide research work done by **Sangeetha.N.S**, II year M.Sc. Nursing, Sree Mookambika College Of Nursing, Kulasekharam, under the guidance of **Mrs. Ajitha Rethnam, M.Sc. (N) PhD** [N]., Head of the Department in Medical Surgical Nursing, in partial fulfillment of the requirement for the degree of Master of Science in Nursing under The Tamil Nadu Dr. M.G.R. Medical University, Chennai.

Place : Kulasekharam **Principal**

Date :7.8.2017 Sree Mookambika College Of Nursing

CERTIFICATE

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DECLARATION

I hereby declare that the present dissertation **a study to assess the effectiveness of therapeutic back massage in promotion of sleep and reduction of pain among post CABG patients admitted in Sree Mookambika Medical College Hospital Kulasekharam** is the outcome of the original research work undertaken and carried out by me under the guidance of **Mrs.Ajitha Rethinam M.Sc[N],PhD [N]** in Sree Mookambika College Of Nursing. I also declare that the material of this has not formed in any away the basis for the award of any degree or diploma in this university or any universities.

Place: Kulasekharam

Date:7.8.2017

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II year M.Sc Nursing

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"Man's efforts are always crowned by God's grace and blessing"

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INVESTIGATOR

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ABSTRACT

Introduction

Sleep and rest are human needs essential to all individual physical and physiological wellbeing. Pain, stress anxiety, and sleep disorders are common after surgery. Poor level of sleep on the post operative period may be due to several factors including pain from surgical incision, presence of thoracic drain, pain caused by prolonged time in bed, and high anxiety levels. Massage therapy (MT) is a technique that promotes the manual mobilization of several structures from both muscle and subcutaneous tissue, by applying mechanical force to tissues. This mobilization improves lymph movement and venous return, reduces swelling, and mobilizes muscle fibers, tendons and skin. Thus, massage therapy may be used to promote muscle relaxation and to reduce pain, stress and anxiety, which help patients improve their level of sleep and speed the recovery.

Study objective

To assess the effectiveness of therapeutic back massage in promotion of sleep and reduction of pain among post CABG patients in experimental group.

Hypotheses

- H1- There is a significant improvement on level of sleep among post CABG patients in experimental group than in control group.
- H2-There is a significant reduction in the level of pain among post CABG patients in experimental group than in control group.
- H3-There is significant association between the level of sleep and the selected demographic variables like age, sex, number of post op days, habits, duration of sleep, bed time rituals
- H4- There is a significant association between level of pain and the selected demographic variables like age, sex, number of post op days, duration of sleep, habits, bed time rituals.

RESEARCH METHODOLOGY

The researcher adopted a quantitative approach with two group pre test and post test design .The study was conducted among 60 clients admitted in Sree

Mookambika Medical College Hospital, Kulasekharam. In this study, independent variable is therapeutic back massage applied to post operative patients who had undergone CABG and dependent variable is level of sleep and level of sleep. The subjects were selected by purposive sampling technique 30 were allotted in Experimental group and 30 in Control group. For experimental group therapeutic back massage was given for 20 minutes for 3 days .whereas control group received routine nursing care.post test was conducted after back massage in experimental and control group by using sleep diary and surgical pain scale.

The collected data were analyzed based on the above mentioned objectives using the descriptive and inferential statistics.

Study findings

The study identified that the level of sleep was improved in the experimental group than the control group. It was found that there was a significantly improvement in the level of sleep among clients in experimental group after therapeutic back massage than in the control group. The 't' value compared for the same also reveal significant difference t= 14.22 [$p<0.05$].

The study identifies that the level of pain was reduced in the experimental group than the control group. It was found that there was a significantly reduction in the level of Pain among clients in experimental group after therapeutic back massage than in the control group. The mean reduction of experimental group was statistically significant The 't' =10.63. The mean reduction of control group was not statistically significant The 't'=1.

Conclusion

The researcher found that Therapeutic back massage very much effective nursing intervention in improving level of sleep and reduction of pain among post CABG patients. Patient satisfaction is very much higher in this intervention. There is no side effects of therapeutic back massage when comparing with other pharmacological treatment.

CHAPTER : I

INTRODUCTION

Sleep is that golden chain that ties health and our bodies together.

Thomas Dekker

He who learns must suffer. And even in our sleep pain that cannot forget falls drop by drop upon the heart, and in our own despair, against our will, comes wisdom to us by the awful grace of the God.

Aeschylus

BACKGROUND OF THE STUDY

Sleep and rest are human needs essential to all individual physical and physiological wellbeing. About one third of our time is spent in sleeping. The purpose of sleep is a mystery. However it is necessary to health and promote a sense of wellbeing. It is a universal process common to all people. People who are ill frequently require more rest and sleep than usual. Rest restores a person's energy allowing the individual to resume optimum functioning.

[Berger et.al 1999]

Sleep can be defined as a normal state of altered consciousness during which the body rests. It is characterised by decreased responsiveness to the environment on a person can be aroused from it by external stimuli. A persons need for rest and sleep changes throughout life. A client with a chronic disease requires more rest than a healthy persons of same age. [Potter P.A et 2000]

Sleep is a naturally recurring state of mind and body characterized by altered consciousness, relatively inhibited sensory activity, inhibition of nearly all voluntary muscles, and reduced interactions with surroundings. Sleep is a basic need of human. Sleep quality is defined as the subjects satisfaction with sleep experience, integrating domains of sleep initiation, sleep maintenance, sleep quantity and refreshment upon awakening. Sleeping poorly after surgery is very common in the days and weeks immediately following surgery. The problem is typically at its worst the first few days after surgery, especially for those patients who are recovering in the hospital or another medical facility rather than in their own home. [Jennifer Whitilock]

Pain, stress anxiety, and sleep disorders are common after surgery. Evidence indicates that patient's quality of sleep after surgery is frequently poor, particularly during the post operative period, and that patients experience high levels of sleep disruption, irregular sleep cycle, and variation in slow wave sleep. Poor quality of sleep on the post operative period may be due to several factors including pain from surgical incision, presence of thoracic drain, pain caused by prolonged time in bed, and high anxiety levels. It has been reported that about 30% of medical and 88% of surgical patients receive sedatives during hospitalization because of sleep disturbances. Similarly patients after CABG patients complain of having trouble sleeping for some time after heart surgery, Patients experience insomnia (an inability to sleep) because of ,the affects of anaesthesia, discomfort related to healing, changes in daily routine activity, stress from personal concerns, change in environment, presence of thoracic drain etc.

Complementary therapy as an adjuvant therapy may have the potential to improve pain management and reduce acute postoperative pain.

[Piotrowsk et al at 2003].

Several complementary therapies can increase the effectiveness of medical treatment and enhance patient comfort. For example soothing music, reflexology, mind body technique, herbal medicines.

[Smith, Collins, Cyna and Crowther 2003]

The national institute of health has advised that massage therapy can reduce fatigue and improve sleep and based on research gathered by the American massage therapy association.

Massage therapy is a field that has been around since ancient civilizations including china, Japan, Korea, Egypt, Rome, Greece and Mesopotamia. Massage is generally considered part of complementary and alternative medicine. It is however increasingly being offered along with standard treatment for a wide range of medical conditions and situations.

Massage is defined as a skill in which different strokes are used to manipulate the soft tissue of whole body in order to provide relaxation. Massage therapy helps the people to spend more time in sleep. The restorative stage in which the body barely moves which reduces the neurotransmitter associated with pain.

In massage therapy, therapist use the fingers to strike, press, knead and pinch to stimulate accupoints along the meridians and promote free flow of energy. Despite being applied to the external surface of the body. Massage create signal that induce

physiological and chemical changes within the body helps to restore the internal balance. People often report pleasant feeling and deep relaxation after massage.

[Anne Williams]

Massage therapy (MT) is a technique that promotes the manual mobilization of several structures from both muscle and subcutaneous tissue, by applying mechanical force to tissues. This mobilization improves lymph movement and venous return; reduces swelling; and mobilizes muscle fibres, tendons and skin. Thus, massage therapy may be used to promote muscle relaxation and to reduce pain, stress and anxiety, which help the patients to improve their level of sleep and speed recover. In addition, Massage therapy may enhance patient mobility and recovery from surgery, which allows patients to perform daily activities and take part in physiotherapy treatment and rehabilitation.

An experimental study was conducted to evaluate the effectiveness of back massage in improving quality of sleep among 60 post Coronary Artery Bypass Grafting and valve replacement patients in Vellore, Tamil Nadu .The results showed that quality of sleep improved in experimental group with the intervention of back massage, 73.3% subjects had good sleep, where as sleep quality deteriorated in the control group. In experimental group during pre test 98.3% of subjects responded about inability to sleep more than 5 hours during last night. After intervention of back massage this inability decreased to 36.7% and 63.33% subjects slept for more than 5 hours at night. The study concluded that back massage is perceived by patients as soothing, relaxing and effective sleep-inducing measure. The study recommended that nurses can use this therapeutic and cost-effective art to improve quality of sleep of post operative patients.

NEED FOR THE STUDY

Sleep is a complex Physiologic and cyclic phenomenon influenced by an individual's biologic clock that regulates not only sleep but also levels of alertness throughout the day. During illness there may be either actual or potential sleep disturbance and this lack of sleep extends the time needed to recover from illness. Therefore patient rest and sleep must be considered as one of the important components.

Lifestyle modifications and rapid urbanization has led to an epidemic of cardiac disease in India. The incidence of coronary artery disease ranges from 14.8 to 65.4 per 1000 population. Cardiac surgeries are now spanning into sophisticated technologies, where innovative methods are introduced to provide distinctive care even for high-risk patients.

Report from 2005 shows that out of 60,000 open heart surgeries done every year majority are CABGs and Valve replacements.

According to the American Heart Association, more than 8000,000 CABG procedures were performed annually .roughly 1,313,000 inpatient PCI procedures were performed in 2006 while 448,000 inpatient bypass procedures were performed.

An estimated 47 million Indians had coronary artery disease (CAD) in 2010. While efforts are being made to control this epidemic by educating public and applying preventive measures, the ever increasing burden of patients with symptomatic and life threatening manifestations of the disease is posing a major challenge.

Indian patients undergoing bypass surgeries are often elderly (average age of 60 yrs) and yet reveal a high burden of major modifiable CVD risk factors. The prevalence of obesity (BMI>25) is 51%; diabetes 48%; hypertension 71%; smoking 40%; and high LDL-C >100 mg/dl 86%.[3] Early and aggressive attention to these risk factors could drastically reduce the need for coronary procedures such as angioplasty, stent, and bypass surgeries.

The number of bypass surgeries is increasing in India but it is decreasing in the US. About 60,000 coronary bypass surgeries are done annually in India. Endarterectomy is needed frequently, because of advanced diffuse plaque build up from malignant heart disease.

In a contemporary study of 3500 patients undergoing CABG, 75% had triple vessel disease, 10% had left main, 25% had severe LV dysfunction, and 9% had carotid Stenosis. The mean body surface area was 1.6 which is much lower than the western average (1.9 in men and 1.6 in women). The small BSA could explain the wide perception of small coronary arteries among Indians.

In multi speciality hospital Madurai, 20 to 25 surgeries are done per month and 2to 3 surgeries are done per day with an unmatched record of over 90,000 heart surgeries including complicated CABG operations. Gliss 1998

In multi speciality hospital Chennai 6 to 8 open heart surgeries are done per day. In India 50,000 to 55000 open heart surgeries are done yearly. Grinath 2011

When an individual is admitted to a hospital, their rest & sleep habits can easily be changed by the hospital environment as well as illness. The lack of sleep for long periods of time can cause illness or worsening of existing illness. Nurses must

help patients to achieve optimum rest and sleep in order to expedite the process of their healing and recovery.

Patients with cardiovascular disease report an especially high frequency of sleep disturbances, and there seems to be some association between sleep problems and coronary events. In a Swedish study, 38.6%of the male patients who were to undergo CABG reported insufficient sleep. Sleep disturbance are very common after cardiac surgery. They are reported to occur in 60%-80% 0f patients in immediate post operative period and alteration in sleep pattern seem to continue to occur in 39% to 69% of cardiac surgery patients during the first month after hospital discharge.

From the findings of literature the researcher realized the importance of promoting sleep by nursing interventions [Therapeutic Massage Therapy] and other measures. Massage therapy was a real insight to the post operative CABG Patients .Hence the investigator designed a study on the effectiveness of nursing interventions [Massage therapy] which promote sleep and improve post operative prognosis.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of therapeutic back massage in promotion of sleep and reduction of pain among post CABG patients admitted in Sree Mookambika Medical College Hospital, Kulasekharam.

OBJECTIVES OF THE STUDY

- To assess the pre test level of sleep and pain among post CABG patients in experimental and control group.

- To determine the effectiveness of therapeutic back massage in improving the level of sleep and reduction of pain among post CABG patients in experimental group.
- To find out the association between the level of sleep and the selected demographic variables like age, sex, number of post op days, habits, bed time rituals.
- To find out the association between the level of pain and the selected demographic variables like age, sex, number of post op days, habits, bed time rituals.

HYPOTHESES

- H1- There is a significant improvement on level of sleep among post CABG patients in experimental group than in control group.
- H2-There is a significant reduction in the level of pain among post CABG patients in experimental group than in control group.
- H3- There is significant association between the level of sleep and the selected demographic variables like age, sex, number of post op days, habits, duration of sleep, bed time rituals
- H4- There is a significant association between pain and the selected demographic variables like age, sex, number of post op days, duration of sleep, habits, bed time rituals.

OPERATIONAL DEFINITION

1.EFFECTIVENESS

In this study effectiveness refers to the extent to which therapeutic back massage have achieved the desired effect on level of sleep among post CABG patient as measured by barber surgical pain scale and sleep diary.

2. BACK MASSAGE:

In this study, back massage is the intervention used by the researcher to improve the level of sleep. The investigator used five technique of back massage like circular kneading[4 minutes], effleurage for deep stroking[4 minutes] ,skin rolling [4 minutes],tapping[4 minutes], superficial stroking [4 minutes]. which was applied to the participants in experimental group for 20 minutes. Massage was started from thoracic to lumbar region. The application of back massage was undertaking before 30 minutes of bed time for three days.

1. Circular kneading

It is a circular technique by which the skin and its underlying structure are moved in a circular rotating motion on the underlying structure of back. Tissue is lifted and rolled away from the bone, and then back towards the bone with a squeezing compressive action. It will take 4 minutes. This massage starts from thoracic to lumbar region.

2. Effleurage for deep stroking

Effleurage is the most basic massage and the movement is a relatively slow and smoothly continuous stroke using the flat of the hand. The fingers are generally held together and moulded to the contour of the client's body in a relaxed way. Although the fingers proceed the palm of the hand as it is moved along the body. This massage will take 4 minutes.

3. Skin rolling

Skin rolling involves compressing soft tissues against each other or against the underlying bone. Skin rolling is a technique by which the skin is lifted and rolled between the fingers and thumbs of both hands. This massage will take 4 minutes.

4. Tapping

The tapping movement is much lighter than the other percussion movements the tips of the fingers are then used to gently tap the area. Tapping is usually gentile but with sufficient intensity to produce a slightly hollow sound on contact with the client.

5. Superficial stroking

Stroking the back of a patient suffering from insomnia the stroke should be from cervical or thoracic region downwards, or to the cervical or thoracic region upwards, never from sacrum to thoracic region and then out over the shoulder with a downward tendency at the end.

3. SLEEP

It refers to a natural periodic statement of rest for the mind and body in which the eyes normally close and consciousness is completely or partially lost. In my study sleep refers to depressed state of consciousness occurring for a sustained period among post CABG patients from third to fifth post op day which is measured by in terms quantity by using sleep diary.

4. PAIN

It is a subjective feeling which the postoperative CABG patients will perceive from third to fifth post op day which is measured by using Barber surgical pain assessment scale.

5. POST OPERATIVE PATIENTS

In this study, it refers to patients who had undergone CABG surgeries and transferred from intensive care unit to the post operative cardiac ward in the period of 2^{nd} -5^{th} post operative day.

VARIABLES

Independent Variable

Therapeutic back massage applied to postoperative patients who had undergone CABG

Dependent Variable

Level of sleep and level of pain

ASSUMPTION

- Good sleep may be good for health and recovery from illness
- Post CABG patients may perceive pain.
- Non pharmacological interventions may induce sleep
- Therapeutic massage as a part of complementary therapy which may be promote sleep and reduction of pain.
- Massage therapy may improves lymph movements, venous return and reduces swelling.

DELIMITATION

This study is delimited to:

- Postoperative patients who have undergone CABG
- Patients who are willing to participate in the study
- Patients who are available at the time of data collection.

ETHICAL CONSIDERATION

The study was conducted after getting approval from research and ethical clearance committee of Sree Mookambika Medical College Hospital and written consent from Director of Sree Mookambika Medical College Hospital. Oral consent was obtained after explaining the data collection procedure clearly in their understandable language and the samples were informed that they can withdraw from the study at any point of time for each sample before the intervention. Assurance was given to the sample and privacy was maintained.

CONCEPTUAL FRAMEWORK

The conceptual framework adopted for the present study is based on Lydia E Halls core, care and cure model [1994]. She considered a basic philosophy of nursing upon which the nurse may base patient care. As a nurse theorist, Lydia E Hall is unique in that her beliefs in nursing were demonstrated in practice. Hall presented her theory of nursing visually by drawing three interlocking circles, the three aspects ie core, care and cure.

Core circle of patient care is based on the concept that patient looks at and explore feeling regarding his or her current health status and potential changes ie core circle deals with patients problems. In this present study, core part deals with factors influencing quality of sleep including age, sex, personal habits, number of post op days, bed time rituals, duration of sleep.

Care circle presents the nurturing component ie the concept of patient care and comfort of patients and provide for teaching learning activities. In this study care circle includes therapeutic back massage given for post CABG patients.

Cure circle of patient care is the evaluation of the pathological and therapeutic sciences applied by the health team members. In this study cure part deals with response of the care provided for the study subjects by the researcher ie improved quality of sleep.

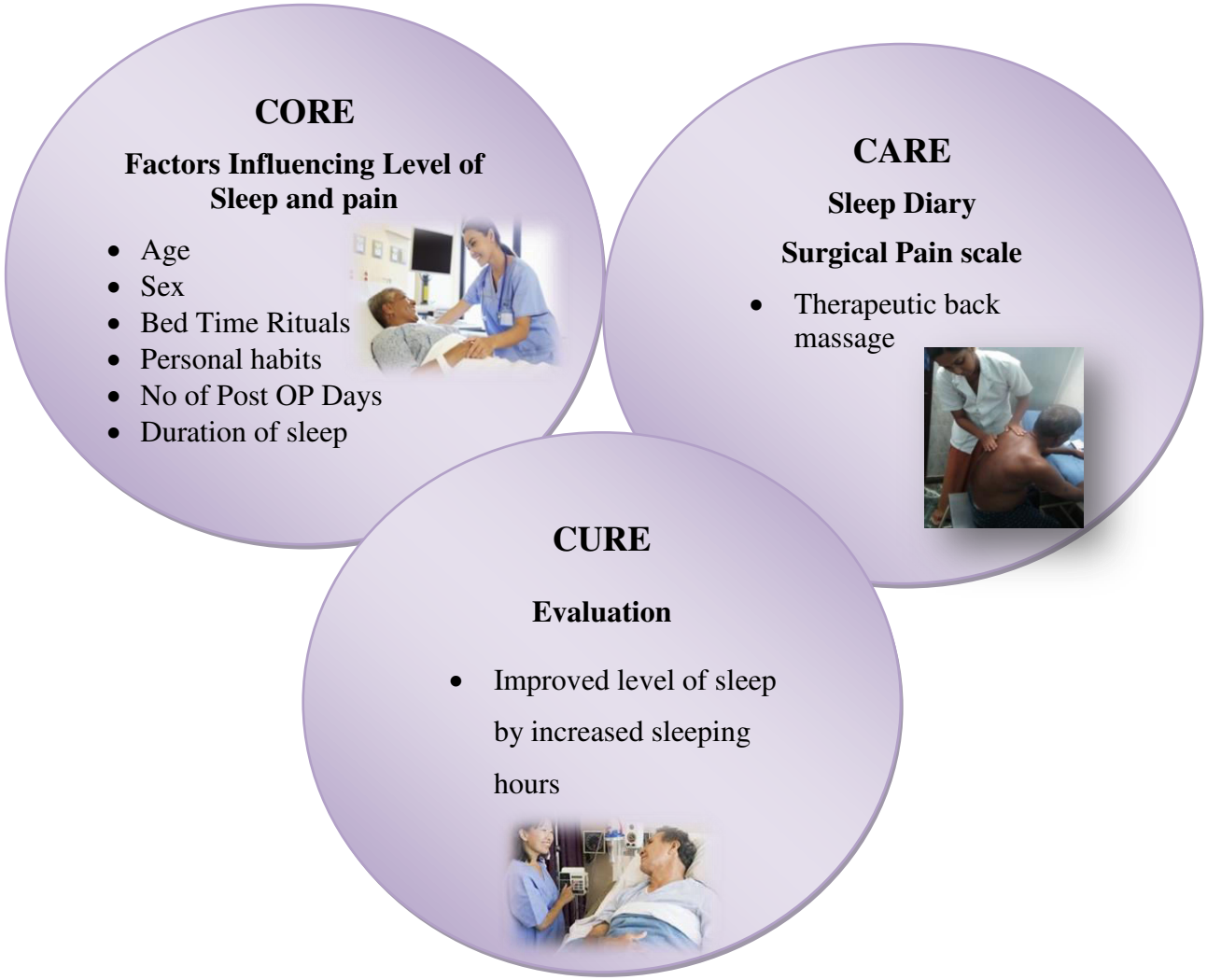

Figure 1 : Modified Conceptual Frame work

CHAPTER - II

REVIEW OF LITREATURE

Review of literature is a key step in research process. It is an account of what is already known about a particular phenomenon .The main purpose of the literature review is to convey to the readers about the work already done and the knowledge and ideas that have been already established on a particular topic of research .It refers to an extensive, exhaustive and systemic examination of publications relevant to the research project .

A literature review is an evaluation report of information found in the literature related to selected area of study .The review describes, summaries, evaluates and clarifies the literature .it gives a theoretical base for the research and helps to determine the nature of research .(Queensland university 1998)Research literature was reviewed and organized under the following headings.

1. Studies related to incidence and prevalence of CAD

Gomar sanchis fabian [2016] has conducted a systematic review on epidemiology of coronary artery disease and acute coronary syndrome. The main aim of the study was to summarize the review of incidence ,prevalence ,trend in mortality and general prognosis of coronary artery disease and a related condition. The researcher found that CHD mortality has gradually declined over the last decades in western countries, but still this condition still causes about one third of all deaths in people older than 35 years .This evidence and with the facts that mortality from CHD is expected to continue increasing in developed countries ,illustrates the need for implementing effective primary prevention approaches worldwide and identifying risk

groups and areas for possible improvement. Thus they had added on prevalence strategy.

James ,Cyril [2013] Department of Cardiology ,Lourdes heart institute has conducted a cross sectional study to analyse the major risk factors of CAD Patients with ischemic heart disease in Kerala. The participants included in this study were 496 patients who were admitted in the cardiology department with acute coronary syndrome or coronary angiographic or ECG evidence of ischemic heart disease .The risk factors studied were conventional risk factors for CAD – Hypertension ,Diabetes mellitus, Dyslipidemia , body mass index ,smoking ,family history of CAD. From the study, it has been seen that in Keralites-irrespective of gender, diabetes or impaired glucose tolerance [79%] and Dyslipidemia [71%] are the major risk factor for coronary artery disease .Hypertension [39%] and cigarette smoking [24%] were not seen to be a major risk factors of coronary artery disease. Among the studied population ,55% of females are with increased BMI ,whereas only 16% of males with coronary artery disease were with BMI above 30. From the study the researcher founded that among south Indian population irrespective of gender, diabetes mellitus , Dyslipidemia and proper treatment of both ,before developing the end organ damage ,play a vital role for the prevention of CAD.

Low.H.Andea, Kiat R[2013] has conducted a systemic review on the prevalence incidence of coronary disease and secondarily highlight risk factors for CAD in systemic sclerosis. For the study they have included the search and studies from pub med and Cochrane central Register of controlled trials search of studies [till 30 November 2013]relating to systemic sclerosis and coronary artery disease was performed, retrieving 180 titles. The inclusion criteria include prevalence /incidence

in systemic sclerosis based on autopsy finding, coronary artery calcium scores, coronary angiographic findings and physician/patient reported CAD. Exclusion criteria includes not written in English ,not concerned with human subjects ,single case reports or review articles, genetic studies and other surrogate outcome measures of atherosclerosis . Quality assessment was done using the Newcastle-Ottawa score [range 0-9] the study results include thirteen studies were selected ,eight studies with controls, seven reported increased CAD prevalence [10-56%]or incidence [2.3%] compared to controls [prevalence 2-44%; incidence 1.5%] five of six studies reported that traditional cardiovascular risk factors were similar /reduced in systemic sclerosis compared to controls .systemic sclerosis was an independent risk factor for CAD in addition to age [n=2],hypercholesterolemia [n=3], male gender [n=1], hypertension and diabetes [n=1]. Disease duration, renal involvement and pulmonary arterial hypertension were associated with CAD. The researcher thus concluded that systemic sclerosis is associated with an increased prevalence /incidence of CAD .systemic sclerosis is an independent risk factor for CAD .the association of CAD with CAD with systemic sclerosis related factors requires further research .meanwhile ,patients with systemic sclerosis should be screened and treated for identified traditional cardiovascular risk factors.

Rao mangala, Xavier denis [2012] conducted a systematic review on the prevalence, risk factors, treatments and outcomes of coronary artery disease in Indians from 1969 to October 2012. Their initial search yielded 3885 studies and after review they also included observational studies . From that review they identified that the prevalence of CAD in urban area was 2.5% -12.6% and in rural areas 1.4% -4.6%.the prevalence of risk factors were smoking [8.9% -40.5%].hypertension [13.1% -36.9%]and diabetes mellitus [0.2-24.0%] the median time to reach hospital after an

MI was 360 min .in hospital rates of drug use were: anti platelets 68% -97 .9%,beta blockers 47.3%-65.8% .From this the researcher concluded that in the first systematic review of CAD in India, Prevalence of risk factors of coronary artery disease was high ,treatments were delayed and use of evidenced based treatment was found.

M.N Krishna,K venugopal (2010)Conducted a community based cross sectional study on prevalence of coronary artery disease and its risk factors in Kerala, south India .in this study the researcher has selected 5167 adults[mean age 51 years, men 40.1%]using a multistage cluster sampling method . A anthropometry, blood pressure, ECG and biochemical investigations were done using standard protocols. In this study they have identified that the overall age adjusted prevalence of definite CAD was 3.5%men 4.8% women 2.6%[p<0.001]. Prevalence of any CAD was 12.5% :men 9.8% women 14.3% [p>0.001] .physical inactivity was reported by 17.5 and 18 % reported family history of coronary artery disease. Other CAD risk factors detected in the study were: overweight or obese 59% abdominal obesity 57%, Hypertension 28% ,diabetes 15% ,high total cholesterol 52% and low level of high density lipoprotein cholesterol 39%. Current smoking was reported only be men [28%]. There was no difference in definite CAD between urban and rural population. Thus they founded that most risk factors of CAD were highly prevalent in the state. Thus they recommended that population and based approaches Both population and individual level of CAD risk factors to reduce the increasing prevalence of CAD should be included in this population.

Chauhan shraddha,Dr.Bani tamber[2000] Department of food and nutrition, institute of Home Economics, has conducted a literature review on coronary artery disease, prevalence, risk factors, prevalence of cardiovascular disease

in India and its economic impact. They reviewed studies conducted after year 2000 in various national and international journals .The results has showed that increased prevalence of cardiovascular disease in India as compared to other developing countries with recent trends showing incidence in younger age group. It is seen to affect almost all sections of the society from young to old and most affluent to least affluent. Thus they concluded that the prevalence of coronary artery disease has increased as indicated by studies in the last decade. Projections for future also estimate a similar trend .need of the hour is to track down and they recommended that closely monitor the prevalence of disease with maintenance of proper and detailed database at hospital. community and other levels .this shall facilitate in evaluating the effect of corrective measure and health policies in India.

2. Studies related to Insomnia among CABG patients

Greve Helle [2015] has conducted a interventional study on improving sleep after open heart surgeries. In this study patients in the control group received usual care and patients in the interventional group received nursing focused on improving sleep by using sleep anamneses and sleep hygienic principles. Patients sleep quality was measured pre operatively and one and two month post operatively by use of PSQI questionnaire and sleep diaries. The sampling size include in 2010, approximately 1,200 patients underwent heart surgery at the department. The primary outcome was changes in overall sleep quality measured by PSQI . Power calculation showed that a sample size of 69 patients in each group would have 90% power to show a 0.5 SD difference between treatment and control group. The interventions based on literature describing sleep patterns and non pharmacological treatment of sleep problems ,which are essential knowledge for nurses ,as well as suggestions on how to obtain sleep

anamness , how to improve sleep hygiene and how to assess a patients sleep quality. Result included in this study was there is no significant effect of the intervention through there several signs that had some effect after 2 months in terms of global PSQI. The researcher concluded that systemic education and training of nurses in sleep, sleep anamneses and sleep hygienic principles has come effect on patients self reported sleep quality 2 months after heart surgery.

Ranjbaran sohelia ,dehdati teherah[2014] has conducted randomized clinical trial study on poor quality sleep in patients after CABG. Study samples include 100 patients referred to the cardiac rehabilitation clinic of Tehran heart centre ,was assigned either to the intervention [recipient of exercise and life style training plus designed intervention based on PRECEED –PROCEED model] or to the control group [recipient of exercise and life style training].eight training sessions over 8 weeks were conducted for the intervention group .predisposing ,enabling and reinforcing factors as well as social support and SQ were measured in the intervention group before and one month after the intervention and compared to those in the control group at the same time points . The result include the mean age of the patients in the intervention [24% women] and control group [24% women]. The results showed that the mean scores of SQ [p value <0.001], knowledge [p=<0.001],belief [p<0.001] ,reinforcing factors [p value<0.001] , and social support [p value<0.001] thus they founded that there was significant difference between the interventional and control groups after the intervention. Finally the researcher concluded that adding an intervention based on the PRECEDE –PROCEED model to the cardiac rehabilitation programme may further improve the sleep quality of patients.

Pei-lin yang ,Guey –shiun huang has conducted a descriptive correlation study to assess the sleep quality and emotional correlates in Taiwanese CABG patients 1 week and 1 month after hospital discharge .the researcher was taken 87 patients who had undergone CABG completed two structured questionnaire using Pittsburgh sleep quality index and the hospital anxiety and depression scale. Three weeks later the patients completed the surveys again pearsoncorrelation, t test .ANOVA, and linear multiple regression analysis were used to analyse the data. The results included that majority of the participants had poor sleep quality at 1 week [82.8%] and 1 month [66.7%] post hospitalization based on the global score of the Pittsburgh sleep quality index. The researcher concluded that sleep quality, anxiety ,depression all significantly improved 1 month after hospital discharge.

Mohammed M.S ,Ibrahim S et al [2014] has conducted a cross sectional descriptive study to assess the most frequent and severe symptoms and most frequent learning needs among Jordanian patients post discharge within the first month. All patients who conduct off –pump CABG surgery were excluded in this study. data was collected by using Arabic version of cardiac symptoms survey[CSS] developed by Al-Dukak [2011],original instrument developed by Nieveen et .al .this scale consist of 10 post CABG symptoms [angina, SOB ,fatigue, depression .trouble sleeping ,incision pain ,swelling in the legs ,fluttering heart beat .anxiety and poor appetite] .Data was collected using Arabic versions of self reported questionnaire ,divided in to three parts ,after taking the permission from the original authors and Arabic translated authors .in this study first they use Arabic version of cardiac symptoms survey. This scale consists of 10 post CABG symptoms [angina, SOB, Fatigue, depression ,trouble sleeping, incision pain, swelling in legs. this scale originally assessed symptom perception ,evaluation and response for the 10 symptoms for the last seven days.

Analysis was done by using SPSS version using descriptive statistics ,symptoms evaluation scores were calculated .the highest mean of symptom evaluation scores were chest pain 3.26 out of 5,anxiety 2.8 ,sleeping troubles 2.2 .while the least mean of symptoms were :fluttering feeling 0.70.depression 0.71 and angina 0.82.thus the researcher concluded that patients who have undergone CABG surgery often experience a lack of information and support for specific symptoms ,therefore active symptoms assessment then management is needed.

Hetta E Jerker, Ulla M Edell-G ustafsson[1999], has conducted a descriptive study on sleep and quality of life assessment in patients undergoing coronary artery bypass grafting .a consecutive sample of 38 male patients ,aged 45-68,underwent CABG ,22 patients were graded in New York Heart Association classes III or IV, and 16 in class I-II before surgery .the method used for this study was 24 hour polysomnographic recordings, using the oxford medilog 9000 recorder, were performed 2 days prior to surgery ,on the first 2 post operative days and 1 month after surgery. The results included in the study is there was a profound decrease in sleep at night, and an increase in daytime sleep. Thus the researcher concluded that in the immediate period following CABG, There is a change in distribution of sleep, which had almost returned to pre operative values 1 month after surgery. This study demonstrates the importance of careful assessment of sleep and sleep disturbance for more individualized nursing care in order to promote sleep in the immediate post operative period.

Pei-lin yang, Guey –shiun huang has conducted a descriptive correlation study to assess the sleep quality and emotional correlates in Taiwanese CABG patients 1 week and 1 month after hospital discharge . The researcher was taken 87

patients who had undergone CABG completed two structured questionnaire using Pittsburgh sleep quality index and the hospital anxiety and depression scale. Three weeks later the patients completed the surveys again .pears correlation, t test .ANOVA , and linear multiple regression analysis were used to analyse the data . The results included that majority of the participants had poor sleep quality at 1 week [82.8%] and 1 month [66.7%] post hospitalization based on the global score of the Pittsburgh sleep quality index. The researcher concluded that sleep quality, anxiety, depression all significantly improved 1 month after hospital discharge.

3. Studies related to effectiveness of back massage to reduce pain and to promote sleep among post CABG patients.

Nitin Patil, Ramesh.C [2015], Manipal college of nursing, Manipal university has conducted a systematic review on effectiveness of massage therapy on post operative outcomes among patients undergoing cardiac surgery. The review was conducted according to the guidelines described in the preferred reporting items for systematic reviews and meta analyses .it includes check list to ensure transparent reporting of systematic reviews and a four phase diagram. the following keywords used were used in the search massage therapy ,Chinese massage ,Swedish massage ,manual therapy, body work ,heart surgery ,coronary bypass graft etc. The studies involved adult patients [above 18 years]undergoing any cardiac surgery that includes coronary artery bypass graft ,valve replacement or repair and open Ivan surgery . Thus the researcher concluded that there is growing interest in understanding the significance of massage therapy after cardiac surgery. Given the conflicting results from published studies included in our review there is a need for higher

methodological qualities of research studies to create a strong evidence base for massage therapy.

Najafi saeedsied,rast fazlola[2014] has conducted a randomized single blind clinic trial to assess the effectiveness of massage therapy by patients companions on severity of pain in the patients undergoing post CABG .in this study 70 post CABG patients randomly divided into an intervention and a control group. The intervention group received massage by one of their relatives who was trained by an expert nurse .the control group, on the other hand, received routine care. The pain intensity was measured by visual analogue scale. The data were entered in to the SPSS statistical software and analyzed using repeated measures ANOVA .the results were included that there is no significant difference was found between the two groups .the researcher concluded that massage therapy by Patients companion trained by a nurse was an effective strategy for pain management in post CABG patients. This could also promote the patients family participation in the process of care.

Abbas Ebadi ,parastoo kavei[2014] has conducted a mini review on the effect of massage therapy on psychological outcomes in patients after cardiac surgery. Searching was done by using key words such as massage therapy, CABG, patient outcome [pain, stress ,anxiety and depression].among 174 papers . 8 fully related papers to the subject of the research were ultimately selected .massage therapy can lead to a reduction of pain ,stress ,and anxiety in patients ,as well as the reduction of need for sedatives in patients in line for heart surgeries. The researcher thus concluded that massage therapy is a safe and effective therapy in reducing and recovering psychological outcomes and pain in patients undergoing heart surgeries .Hence, the use of such non pharmacological approaches can be appealing to clinical caregivers.

Joys jasmine, kumara suguna Stella,[2013] was conducted study on effectiveness of back massage therapy in promoting sleep quality among post operative patients after cardiac surgery. The conceptual frame work used for this study was widenbach's helping art of clinical nursing theory. A qualitative approach was used for this study and the sampling technique .40 samples were selected from cardio thoracic intensive care unit. Tool used was structured questionnaire and modified Pittsburgh sleep quality index. The findings of the study revealed significant changes in the sleep quality among post operative patients after cardiac surgery. The mean poet level [4.25] of sleep quality was higher than the pre test level [1.80] of sleep quality ,likewise standard deviation post test level [0.41] and the t value of 10.971 which was satisfactory significant at $p < 0.05$ level in experimental group after receiving back massage therapy. From the study the researcher concluded that the back massage had effect on promoting sleep which can be provided as a complementary therapy in management of sleep disturbance among post operative patients after cardiac surgery.

Vishwajith math pati[2012] conducted a quasi experimental study on effectiveness of back massage in promoting sleep pattern of patients with congestive cardiac failure . The main aim of the study is to identify the sleep pattern of patients in the study group and the control group. The design selected for the study was quasi experimental design [pre test post test non randomized control group]. Non probability purposive sampling method was applied to select 50 congestive cardiac failure patients from 35 -65 age group preferably male. In study group showed after administration back massage there was a boost in the number of subject from poor and moderate to good level of which showed the effectiveness of nursing intervention [back massage].the study concluded that ,there are various factors which affect the

sleep pattern of the congestive cardiac failure patients. Back massage is helpful in improving sleep pattern in congestive cardiac failure patients.

Zahra shafiei, Babaee sima [2012] has conducted a randomized single blind clinical trial on effectiveness of massage therapy on the mood of patients after open heart surgery. The study was performed in the period of December 2010 to may 2011 in Isfahan chairman hospital. It was conducted on two groups of patients undergoing coronary artery bypass surgery with the inclusion criteria. the researcher made the patient and the patients environment ready before the massage intervention .the patient demographic questionnaire and the profile of the mood states that contained 65 items were conducted and completed by a colleague .the study was performed using the techniques of Swedish massage stroke level for 20 minutes with soothing baby oil on the legs ,hands and back .the result has reviewed that obtained results of the two groups indicated that there was no significant difference in terms of demographic data between the two groups [p=>0.05] and there was a significant difference between the mean overall rating mood and vital signs in the case group [p=<0.001].thus the researcher concluded that the use of massage therapy as an effective nursing intervention can improve the mood of patients after open heart surgery.

Sangeetha Macune [2010] a quasi experimental study was conducted at Christian medical college ,Vellore about the effectiveness of back massage and quality of sleep among postoperative CABG and valve replacement surgery patients. Consecutive sampling technique was used for collecting samples of 30 patients each from experimental as well as from control group. Routine care was provided to the control group subjects for three consecutive days, whereas back massage was given [8-9pm] for three consecutive days about 10 minutes to the experimental group. The

findings of the study showed that there is a significant difference of the sleep score of two groups. Effectiveness of back massage as quality of sleep is significantly improved in the experimental group [mean score 4.4333], than in control group [mean score -0.7667].overall quality of sleep improved in experimental group with the intervention of Back Massage; 73.3 % subjects had good sleep, whereas sleep quality deteriorated in the control group and 93.3 % subjects had poor sleep without the intervention of back massage.

Nerbas Baggio Flavia [2010] has conducted a randomized control study to assess the effects of massage therapy on sleep quality after CABG .participants included CABG patients who are randomized into a control group and a massage therapy group following discharge from ICU. The control group and the massage therapy group comprised participants, who were subjected to 3 nights without massage therapy and 3 nights with massage therapy respectively. The patients were evaluated by using visual analogue scale, sleep diary .the study results include 57 CABG patients enrolled in the study during the preoperative period. 17 of whom were excluded due to post operative complications. The remaining 40 participants [male 67.5% ,age 61.9years ,BMI 27.2kg/m].the participants in the massage therapy group has fewer complaints of fatigue on day 1 [p=0.006]and day 2[p=0.028]in addition ,they reported more sleep effective during all three days [p=0.019]when compared with the control group. The study was concluded that massage therapy is an effective technique for improving patient recovery from CABG because it reduces fatigue and improves sleep.

Susanne M Cutshalla et al [2010]conducted a randomized trial on massage therapy for Cardiac surgery patients at St Elizabeth Department of cardiothoracic

surgery Norway, to determine whether massage significantly reduces anxiety, pain and muscular tension and enhances relaxation compared with an equivalent period of rest time after cardiac surgery. Elective cardiac surgery patients were randomized to receive massage or rest time at 2 points after surgery. Visual analogue scale were used to measure pain before and after treatment. Focus groups and feedback were used to collect qualitative data about clinical significance and feasibility. A total of 152 patients [99% response rate] participated. Massage therapy produced significant greater reduction in pain [p=.001], pain was significantly reduced after massage on day 3 or 4 [p<.001] and day 5 or 6 [p=.003]. The control group experienced no significant change at either time. It concluded that massage therapy significantly reduced the pain, anxiety, and muscular tension and improves relaxation and satisfaction after cardiac surgery.

Matric M piotrowski [2003] conducted a study on massage as adjuvant therapy n the management of Acute post operative pain. Prospective randomized clinical trial was used in this study. Participants received one of three nursing interventions ., focused attention or routine care interventions were performed twice daily starting 24 hours after the operation through post operative day 7. Perceived pain was measured each morning. The results shows the rate of decline in the unpleasant of post operative pain was accelerated by massage [F=0.05] massage also accelerated the rate of decline in the intensity of post operative pain. Massage may be a useful adjuvant therapy for management of acute post operative pain.

Reif Hernandez.t.krasnegor[2001] has conducted randomized control study to assess the effectiveness of massage therapy and relaxation for chronic low back pain .the objective of the study is to evaluate the treatment effects for reducing pain,

depression , anxiety and stress hormones and sleepiness and for improving trunk range of motion associated with chronic back pain. The study participants include 24 adults [M age =39.6%] with low back pain of nociceptive origin with a duration of at least 6 months participated in the study. The group did not differ on age, socio economic status, ethnicity ,gender. The methods include 24 adults with lower back pain were randomly assigned to massage therapy or a progressive muscle relaxation group. Sessions were 30 minutes twice a week for five weeks .on the first and last day of the 5 weeks study participants completed questionnaire, provided a urine sample and were assessed for range of motion. The result of the study is the massage therapy group, as compared to the relaxation group, reported experiencing less pain ,depression ,anxiety and improved sleep. They also showed improved trunk and pain flexion performance and their serotonin and dopamine levels were higher .finally the researcher concluded that massage therapy is effective in reducing pain, stress hormone and symptoms associated with chronic low back pain.

This chapter described the related studies through which the investigator proceeded for conducting the study. The related studies includes incidence and prevalence of CAD, studies related to insomnia among post CABG patients, studies related to effectiveness of back massage to reduce pain and to promote sleep among post CABG patients. The review of literature helped the researcher to get a broad understanding on the field of research and guided the researcher to its full perfection.

CHAPTER - III

METHODOLOGY

Research methodology is the way to solve problems systematically .this chapter contains the methodology and different steps that were undertaken for the collection and organization of the data by the investigator.

The methodology of the study includes research approach, design, setting, population sample size, technique, sampling criteria, data collection procedure and statistical analysis of data.

RESEARCH APPROACH

This study meant to assess the effectiveness of therapeutic back massage on sleep and pain among post CABG patients. The research approach used for the study was quantitative approach.

RESEARCH DESIGN

The research design determines how the study will be, when the data is to be collected, organized, and when interventions are to be implemented.

The design used in this study is quasi experimental pre test, post test control group research design.

The design can be diagrammatically represented as follows.

E O_1 X O_2

C O_1 - O_2

E = EXPERIMENTAL GROUP

C = CONTROL GROUP

O_1 = PRE TEST

X = INTERVENTION

O_2=P0ST TEST

SETTING

The study was conducted in Sree Mookambika medical college hospital at Kulasekharam .It is a 540 bedded hospital and having average inpatients of 440-470 patients and 500 new cases and 350 old cases as outpatients per day. The hospital is having post-operative ward for CABG patient and consist of 10-15 patients. 2-4 open heart surgeries like CABG, valve replacement are done per day and around 40-50 CABG cases are done in a month. Approximately 450 CABG surgeries were performed in the year of 2016.

POPULATION

Target population

The target population of the study was post CABG patients in Sree Mookambika medical college hospital Kulasekharam, Kanyakumari district.

Accessible population

Accessible population for the study was post-operative patients who had undergone CABG and who meets the inclusion criteria.

SAMPLE SIZE

Sample consists of 60 post CABG patients, among 60,30 patients were allotted to the experimental group and 30 allotted to the control group.

SAMPLING TECHNIQUE

Purposive sampling technique was adopted for this study .the sample were selected based on the inclusion and exclusion criteria.

CRITERIA FOR SAMPLE SELECTION

INCLUSION CRITERIA

- CABG patients those who are willing to participate in the study.
- CABG patients between 30-60 years.
- CABG patients who are conscious and well oriented.
- CABG patients those who are having decreased sleep pattern

EXCLUSION CRITERIA

- Those who are not willing to participate.
- CABG patients those who are bedridden and physiologically unstable.
- Those who are having the complaints of bedsore and ulcerative wound on back.
- Those who are critically ill after CABG

DATA COLLECTION TOOL

The data collection tool used for the study was

- Demographic variables
- Sleep assessment questionnaire [only to select clients with insomnia]
- Sleep diary
- Barber Surgical Pain Scale

DESCRIPTION OF THE TOOL

The tool consists of four sections. Section A, Section B, Section C, section D

SECTION A: It deals with demographic variables such as age, sex, personal habits, Number of postoperative days ,bed time rituals, duration of sleep..

SECTION B: Section B consists of sleep assessment questionnaire used to select clients with insomnia.

SECTION C:Section C consist of daily sleep diary .It is used to assess the level of sleep.

SECTION D: Section D consist of modified Barber Surgical Pain Scale. It is used to assess the Level Of Pain among post CABG patients.

VALIDITY AND RELIABILITY

Validity of the tool was established on the basis of the opinion of experts. Four experts in the field of Medical Surgical Nursing .The necessary suggestions and modifications were incorporated in the final preparation of the tool. Reliability of the tool was identified by test retest methods .Pearson correlation was done by using the

formula $r = \frac{\frac{1}{n}\Sigma xiyi - \overline{x}\,\overline{y}}{\sqrt{\frac{1}{n}\sum(xi-\bar{x}))^2 \frac{1}{n}\sum(yi-\bar{y}))^2}}$ and the r value is 0.80. Hence the tool was reliable.

PILOT STUDY

Pilot study was conducted in Sree Mookambika medical college hospital. 6 samples were selected based on the inclusion and exclusion criteria. The sample was allotted to experimental and control group by purposive sampling technique. Pre test was conducted for both experimental and control group. Then therapeutic back massage was given to the client in experimental group for 20 minutes for 3 days, whereas control group was not given any intervention .Post test was conducted on 4th day morning for both group by using sleep diary and surgical pain scale .

DATA COLLECTION METHOD

The data collection period was one month. The study was conducted in Sree Mookambika institute of medical science with 60 samples. 30 patients were in experimental group and 30 patients were in control group. Before starting the study the investigator obtained permission from hospital authority for conducting the study. The subjects were explained and oral consent was taken.

Purposive sampling was used to select the sample. The area selected was male and female post operative cardiac ward. The clients who were waiting for CABG were screened with Sleep Assessment Questionnaire and the clients who had decreased level of sleep was selected as samples. Then after CABG patient was shifted from intensive care unit to post operative ward, where, the researcher conducted pre test for Sleep by using Sleep Diary and pain by using barber pain scale.

Then the researcher gave therapeutic back massage for the clients in experimental group for 3 days. Then post test was conducted on 4th day morning by using barber pain scale and sleep diary was collected from the clients of both experimental and control group. 4th day pain score was taken for Analysis .

PLAN FOR DATA ANALYSIS

The data analysis was done by using inferential and descriptive statistics. Descriptive statistical methods like Percentage, mean and standard deviation were used, Inferential statistical methods. Paired‘t’ test was used to find out the effectiveness of therapeutic back massage on improving level of sleep and reduction of pain, chi-square test was used to find out the association between variables.

SUMMARY

This chapter described the scientific pathway through which investigator proceeded for conducting the study. The setting of the study, the population, sample, the tool and techniques used for the study were clearly described . It also gave account of the pilot study, data collection procedures of the actual study and plan for analysis.

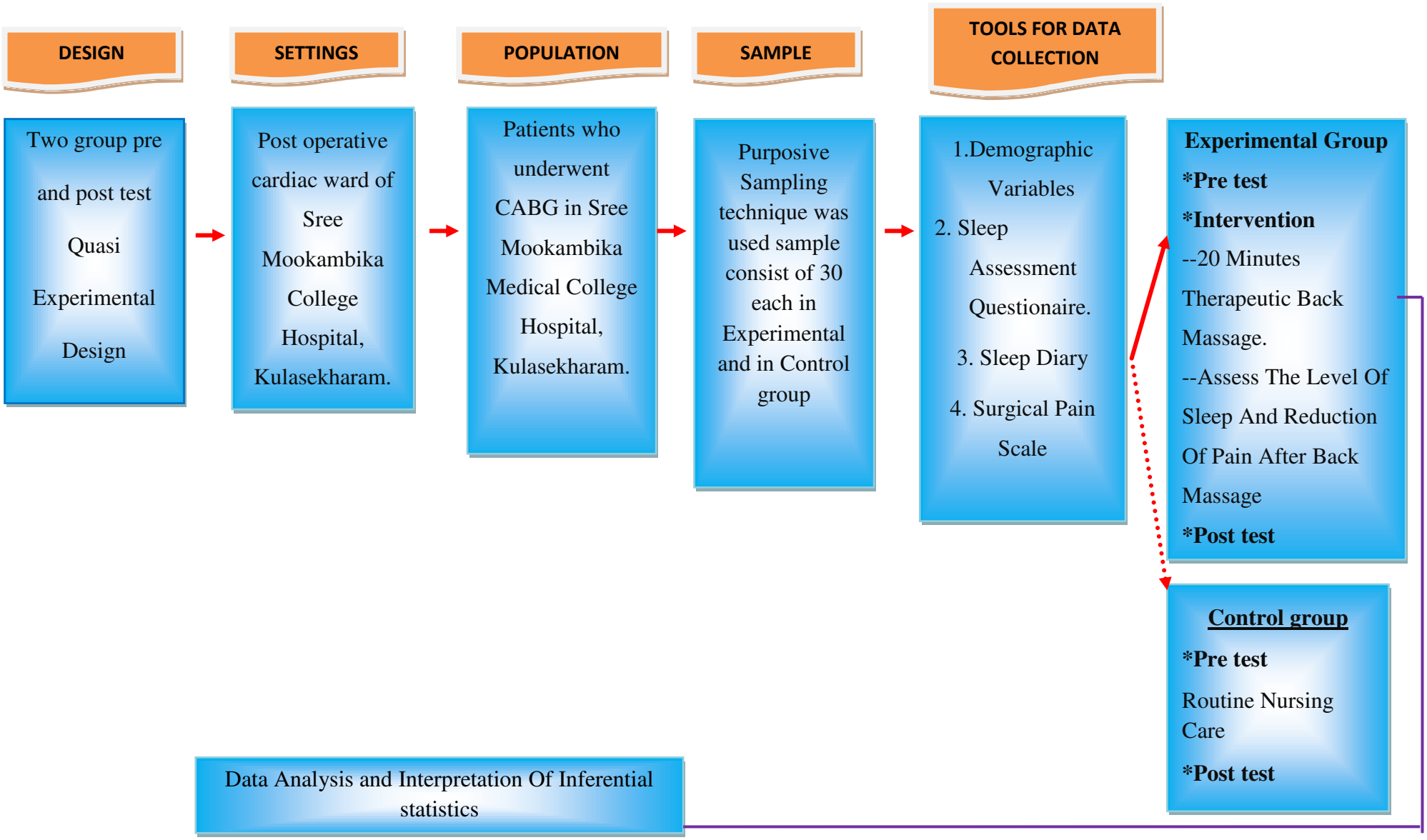

Fig. 2 : SCHEMATIC REPRESENTATION ON RESEARCH DESIGN

CHAPTER - IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of data collected in accordance with the objectives stated for the study. The data collected were analyzed by using descriptive and inferential statistics. The test score was analyzed by statistical mean and standard deviation the significance of mean scores were interpreted by paired 't' test.

The difference in experimental and control group was assessed by't' test. The association between demographic variables and level of sleep and pain was assessed by chi-square test.

OBJECTIVES OF THE STUDY

- To assess the pre test level of sleep and pain among post CABG patients in experimental and control group.
- To determine the effectiveness of therapeutic back massage in improving the level of sleep and reduction of pain among post CABG patients experimental group.
- To find out the association between the level of sleep and the selected demographic variables like age, sex, number of post op days, personal habits.
- To find out the association between reduction of pain and the selected demographic variables like age, sex, number of post op days, personal habits

SECTION A

This section displays the demographic variables of the subjects selected by the investigator.

SECTION B

This section deals with,

- Assess the pre test level of sleep among post CABG patients in experimental and control group.
- Effectiveness of therapeutic back massage in improving the level of sleep by the post test level of sleep in experimental group.

SECTION C

- Assess the pre test level of pain among post CABG patients in experimental and control group.
- Effect of therapeutic massage in reducing pain among post CABG patients in experimental and control group.

SECTION D

This section deals with association between level of sleep and the selected demographic variables

SECTION A

This section displays the demographic variables of the subjects selected by the investigator.

Table 1:

Distribution of Subjects According to Demographic Variables and their Homogenous

N= 60

Sl. No	Demographic variables	Experimental group		Control group		χ^2
		f	%	f	%	
1	**Age group**					
	(a) 30-40 yrs	2	6.7	1	3.3	
	(b) 41-50 yrs	10	33.3	8	26.7	0.786
	(c) 51-60 yrs	18	60	21	70	
2	**Sex**					
	(a) Male	25	83.3	23	76.7	0.417
	(b) Female	5	16.7	7	23.3	
3	**Habits**					
	(a) Smoking	7	23.3	7	23.3	
	(b) Alcohol	10	33.3	9	30	0.164
	(c) Tobacco use	4	13.3	5	16.7	
	(d) None	9	30	9	30	
4	**No.of post OP day**					
	(a) 3rd post Op day	8	26.7	6	20	
	(b) 4th post op day	12	40	14	46.7	
	(c) 5th post OP day	10	33.3	10	33.3	0.440

Table one continued ……..

Sl. No	Demographic variables	Experimental group		Control group		χ^2
		f	%	f	%	
5	**Rituals**					
	(a) Milk	4	13.3	2	6.7	
	(b) Fruits	2	6.7	0	0	
	(c) Drugs	7	23.3	2	6.7	
	(d) Water	17	56.7	26	86.7	7.328
6	**Duration of sleep**					
	(a) 0-2 hrs	4	13.3	6	20	
	(b) 3-5 hrs	9	30	9	30	
	(c) 6-8 hrs	17	56.7	15	50	0.525

The above table shows that majority of the sample subject were males in both experimental (83.3%) and control group (76.7%). In respect of age 33.3% of the subjects between 41-50 yrs in experimental group and 26.7% of the subjects between 41-50 yrs in control group. 30% of the subjects had a habit of alcoholism and 23.3% of the subjects had a habit of smoking and alcoholism. The two groups were identical and did not show any significant difference. Chi square computed for that reveals same.

The above findings are presented as figure:

- Distribution of sample according to the age is represented as bar diagram Fig. 1
- Distribution of sample according to sex is represented as bar diagram fig. 2
- Distribution of sample according to habits in experimental group is represented as bar diagram Fig. 3
- Distribution of sample according to habits in control group is represented as bar diagram fig.4
- Distribution of sample according to no.of post OP day is represented as bar diagram fig. 5
- Distribution of sample according to rituals in experimental group is represented as bar diagram Fig. 6
- Distribution of sample according to rituals in control group is represented as bar diagram Fig. 7
- Distribution of sample according to duration of sleep is represented as bar diagram fig. 8

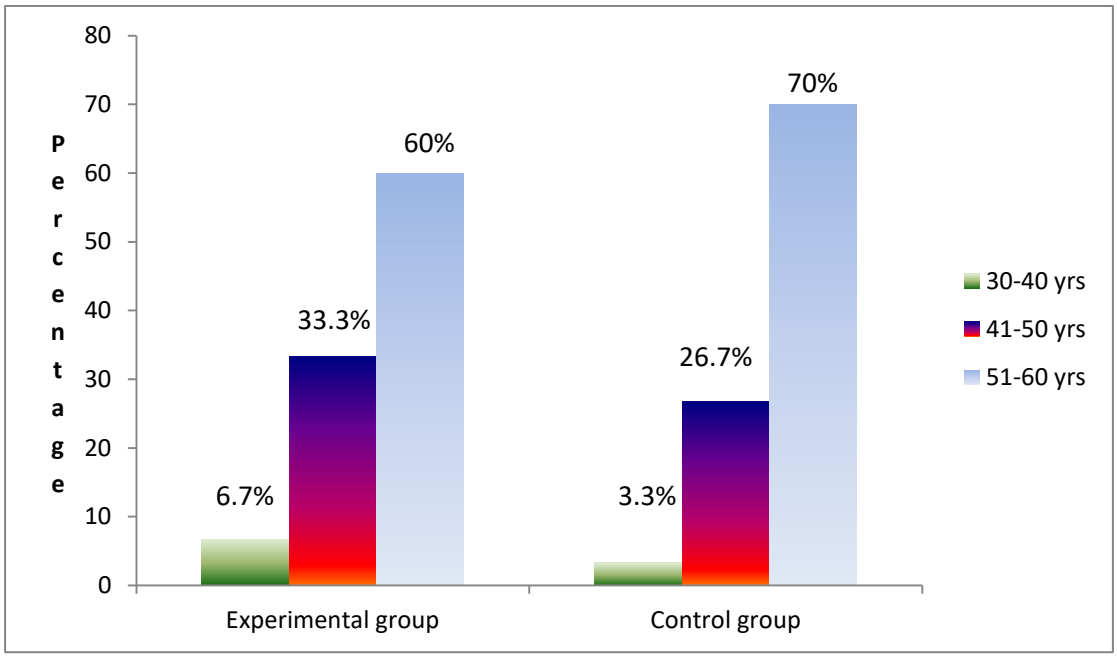

Fig 1: Distribution of Demographic variables According to Age

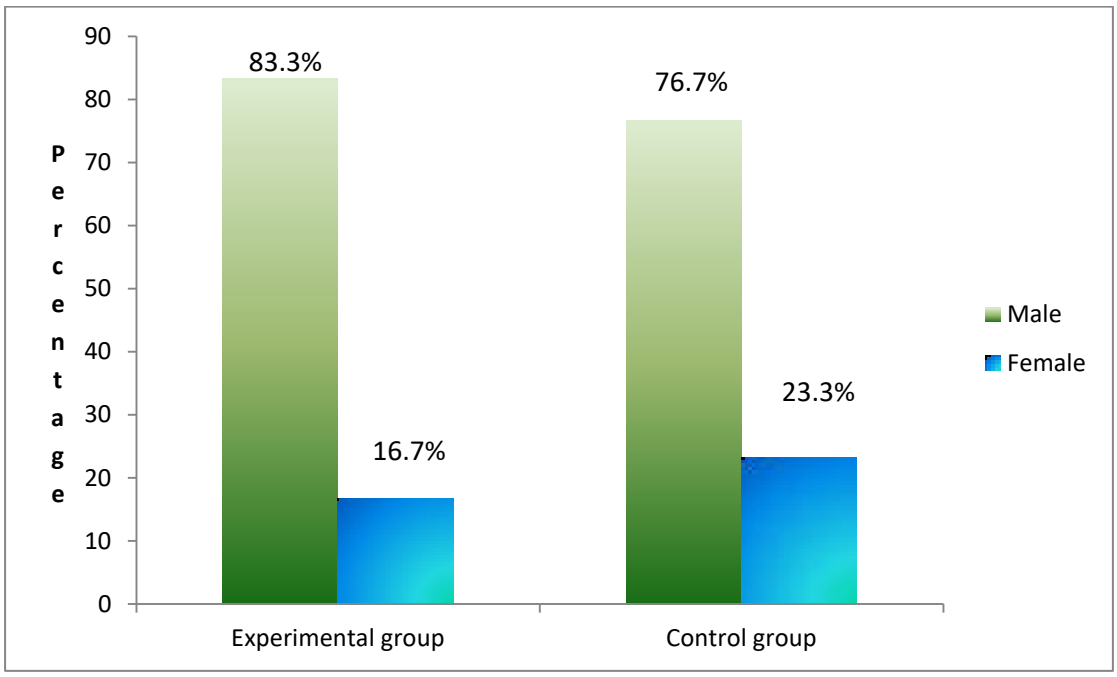

Fig 2: Distribution of Demographic variables According to Sex

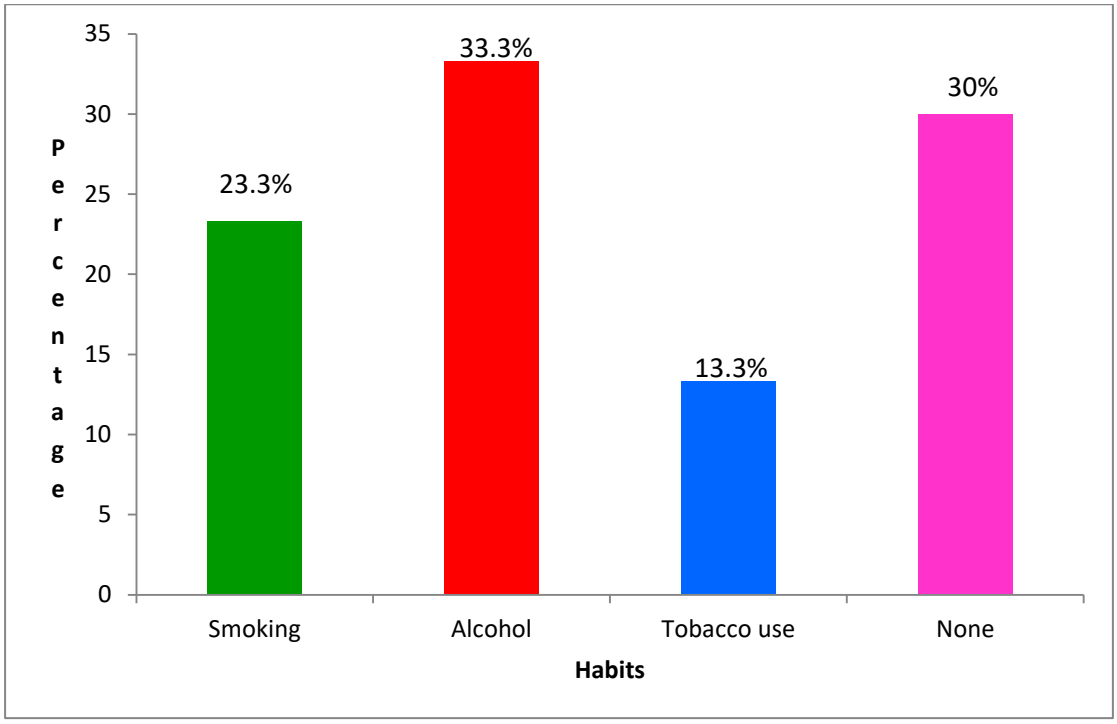

Fig 3: Distribution of Demographic variables According to Habits in experimental group

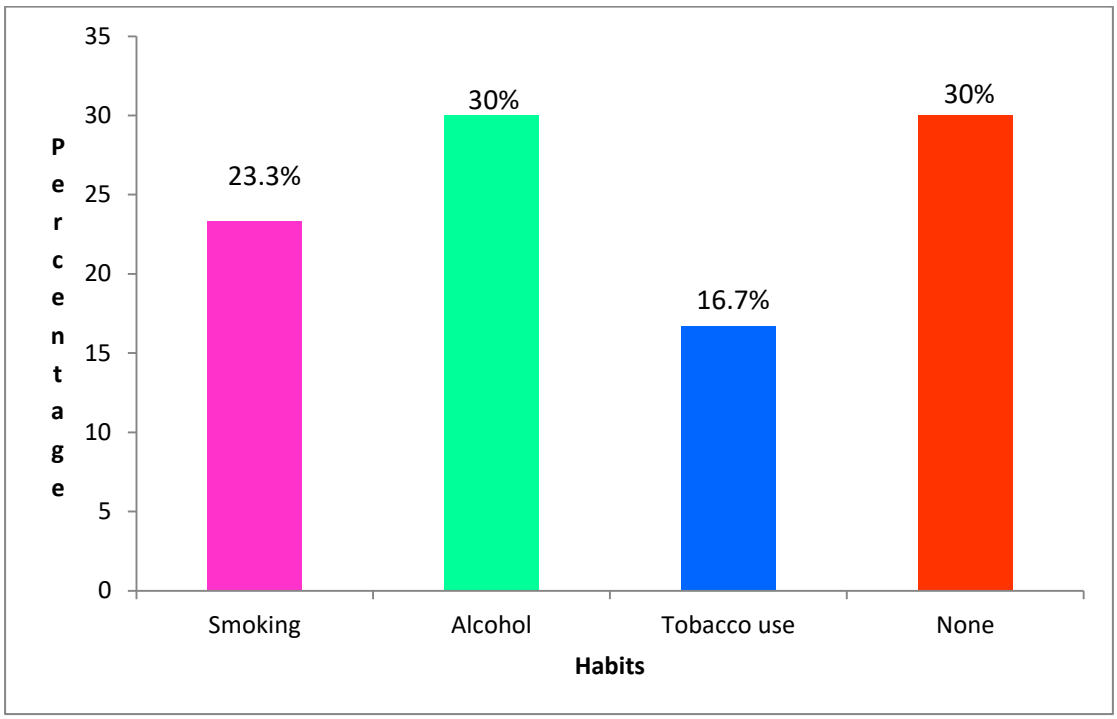

Fig 4: Distribution of Demographic variables According to Habits in control group

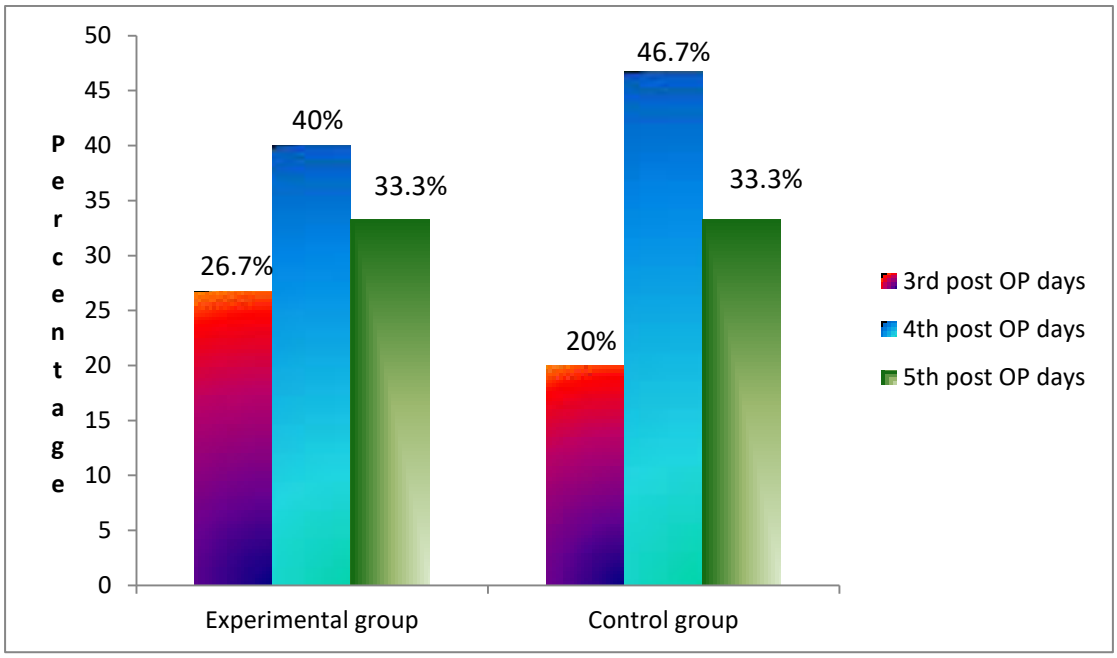

Fig 5: Distribution of Demographic variables According to No. of post OP days

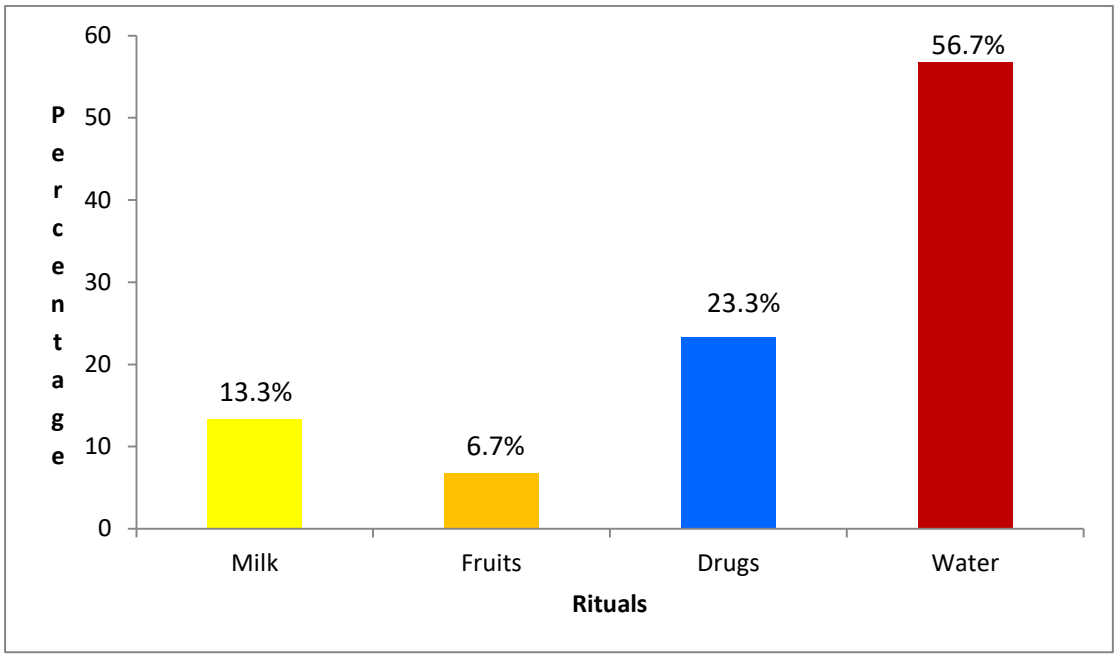

Fig 6: Distribution of Demographic variables According to Rituals in experimental group

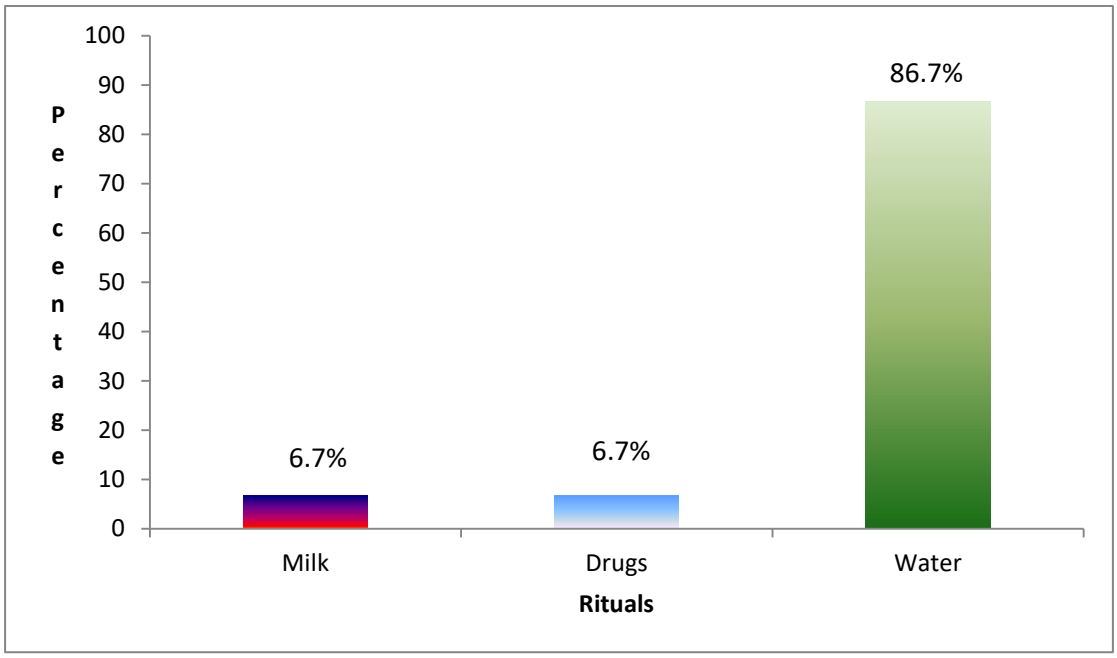

Fig 7: Distribution of Demographic variables According to Rituals in control group

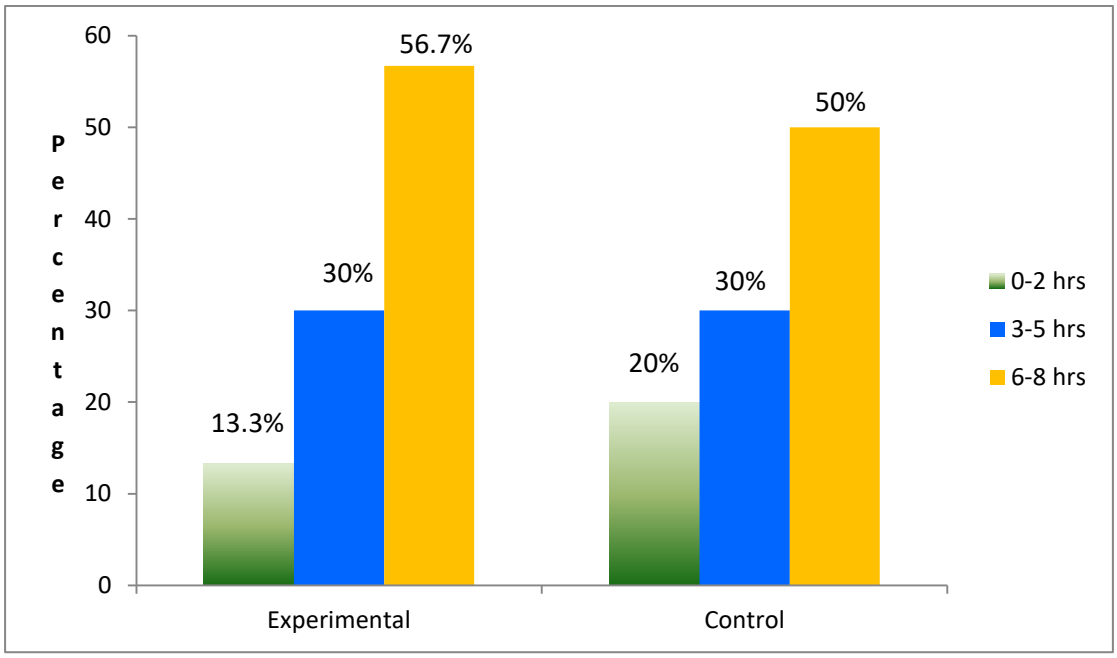

Fig 8: Distribution of Demographic variables According to Duration of Sleep

SECTION B

This section deals with,

- Assess the pre test level of sleep among post CABG patients in experimental and control group.
- Effectiveness of therapeutic back massage in improving the level of sleep by the post test level of sleep in experimental group.

Table 2:

Frequency and percentage distribution according to the level of sleep

Level of sleep	Experimental group							
	Pre test		Day 1		Day 2		Day 3	
	f	%	f	%	f	%	F	%
Very poor	4	13.3	0	0	0	0	0	0
Poor	26	86.7	17	56.7	7	23.3	0	0
Good	0	0	13	43.3	23	76.7	29	76.7
Very good	0	0	0	0	0	0	1	3.3

Level of sleep	Control group							
	Pre test		Day 1		Day 2		Day 3	
	f	%	f	%	f	%	F	%
Very poor	3	10	0	0	0	0	0	0
Poor	20	66.7	24	80	21	70	23	76.7
Good	7	23.3	6	20	9	30	7	23.3
Very good	0	0	0	0	0	0	0	0

The above table shows the frequency and distribution sample according to the level of sleep. In experimental group 86.7% had experienced poor level of sleep in pre test. In control group 66.7% experienced poor sleep in pre test. In experimental group 56.7% had experienced poor level of sleep in day 1. In control group 80% experienced poor sleep in day 1. In experimental group 76.7% experienced good level of sleep in day 2. In control group, 70% experienced poor sleep in day 2 .In experimental group76.7% experienced good level of sleep in day 3. In control group 76.7% experienced poor sleep in day 3.

The above findings are presented in figure 9 and 10.

- Frequency and percentage distribution of sample according to the level of sleep in experimental group represented as bar chart in figure 9.
- Frequency and percentage distribution of sample according to the level of sleep in control group represented as bar chart in figure 10.

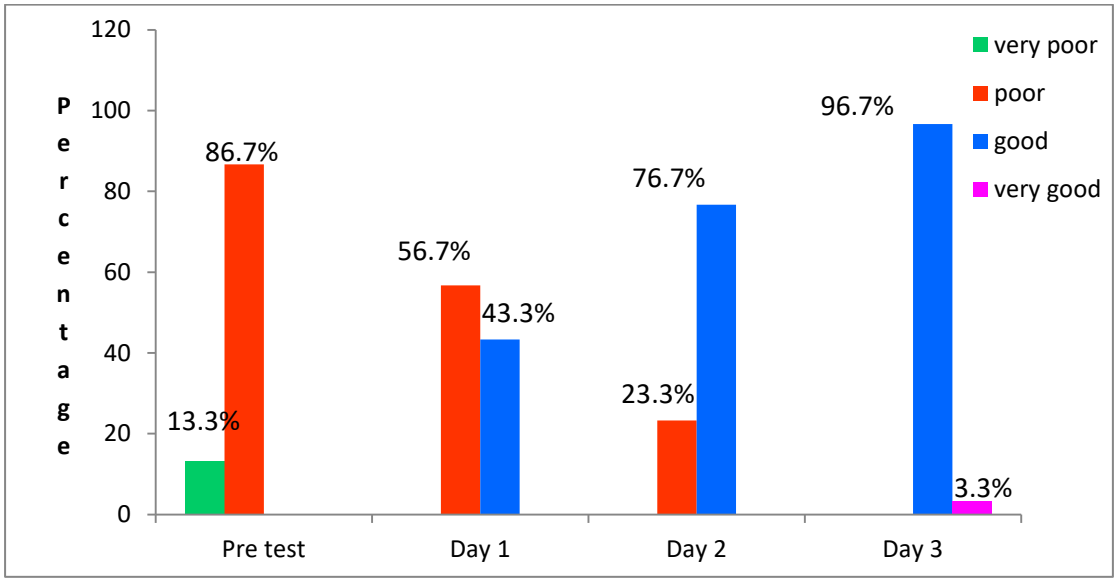

Fig.9: Frequency and percentage distribution of sample according to the level of sleep in experimental group

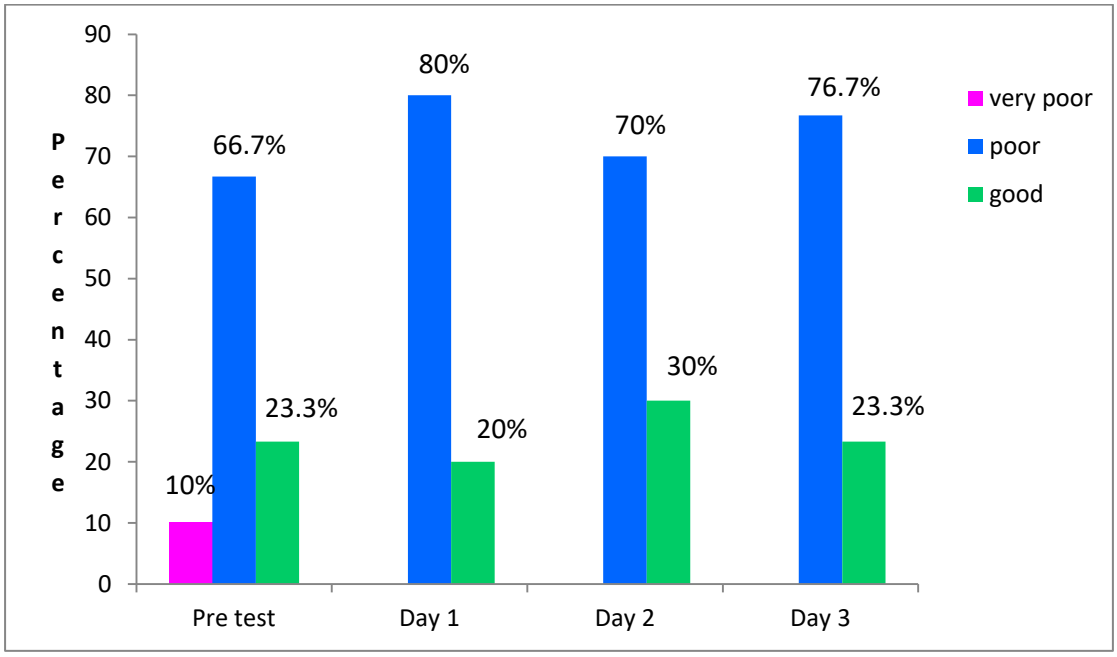

Fig.10 : Frequency and percentage distribution of sample according to the level of sleep in control group.

Table 3

Effectiveness of therapeutic back massage on level of sleep among post CABG patients in experimental and control group.

N=60

Study group	Pre test		Day 1		Level of sleep		't'	df	t value
	Mean	SD	Mean	SD	Mean	SD			
Experimental Group	3.86	1	5.2	0.924	1.33	0.479	15.23*	29	2.045
Control group	4.73	1.17	5	0.870	0.266	0.739	1.975	29	2.045

*Significant at $p<0.05$

The above table shows the effectiveness of therapeutic back massage on level of sleep in experimental group and control group. The mean hours of sleep in experimental group at pre test was 3.86 and in control group was 4.73. The mean hours of sleep in experimental group at day 1 was 5.2 and in control group was 5.

The improvement in level of sleep from pre test to day 1 among experimental group was 1.33±0.479 and in control group was 0.266±0.739. The improvement in level of sleep in experimental group was statistically significant ($t=15.23$, $df=29$ and $p<0.05$). But the improvement in level of sleep in control group was not statistically significant ($t=1.975$, $df=29$ and $p>0.05$).

Table 4

Effectiveness of therapeutic back massage on level of sleep among post CABG patients in experimental and control group.

N=60

Study group	Pre test		Day 2		Level of sleep		't'	df	t value
	Mean	SD	Mean	SD	Mean	SD			
Experimental Group	3.866	1	6.2	0.846	2.33	0.802	15.93*	29	2.045
Control group	4.733	1.172	5.133	0.819	0.4	0.855	2.562	29	2.045

*Significant at $p<0.05$

The above table shows the effectiveness of therapeutic back massage on level of sleep in experimental group and control group. The mean hours of sleep in experimental group at pre test was 3.86 and in control group was 4.73. The mean hours of sleep in experimental group at day 2 was 6.2 and in control group was 5.133

The improvement in level of sleep from pre test to day 2 among experimental group was 2.33±0.802 and in control group was 0.4±0.855. The improvement in level of sleep in experimental group was statistically significant (t=15.93, df=29 and $p<0.05$). The improvement in level of sleep in control group also statistically significant (t=2.562, df=29 and $p<0.05$).

Table 5

Effectiveness of therapeutic back massage on level of sleep among post CABG patients in experimental and control group.

N=60

Study group	Pre test		Day 3		Level of sleep		't'	Df	t value
	Mean	SD	Mean	SD	Mean	SD			
Experimental Group	3.866	1	7.4	0.813	3.533	1.008	19.19*	29	2.045
Control group	4.733	1.172	5.03	0.718	0.3	1.118	1.469	29	2.045

The above table shows the effectiveness of therapeutic back massage on level of sleep in experimental group and control group. The mean hours of sleep in experimental group at pre test was 3.866 and in control group was 4.733. The mean hours of sleep in experimental group at day 3 was 7.4 and in control group was 5.03 .

The improvement in level of sleep from pre test to day 3 among experimental group was 3.533±1.008 and in control group was 0.3±1.118. The improvement in level of sleep in experimental group was statistically significant (t=19.19, df=29 and $p<0.05$). But the improvement in level of sleep in control group was not statistically significant (t=1.469, df=29 and $p>0.05$).

SECTION C

- Assessment of pre test level of pain among post CABG patients in experimental and control group.
- Effect of therapeutic massage in reducing pain among post CABG patients in experimental and control group.

Table 5

Frequency and percentage distribution according to the level of pain.

Pain score	Experimental group				Control group			
	Pre test		Post test		Pre test		Post test	
	f	%	f	%	f	%	F	%
Mild	0	0	20	66.7	0	0	0	0
Moderate	13	43.3	10	33.3	14	46.7	14	46.7
Severe	17	56.7	0	0	16	53.3	16	53.3

The above table shows that frequency and percentage distribution of sample according to the level of pain. In experimental group 56.7 % experienced severe pain in pre test and 66.7 % experienced mild pain in post test. In control group 53.3 % experienced severe pain in pre test and 53.3 % experienced severe pain in post test.

The above findings are presented in figure 11and 12.

- Frequency and percentage distribution of sample according to the level of pain in experimental group represented as bar chart in figure 11.
- Frequency and percentage distribution of sample according to the level of pain in control group represented as bar chart in figure 12.

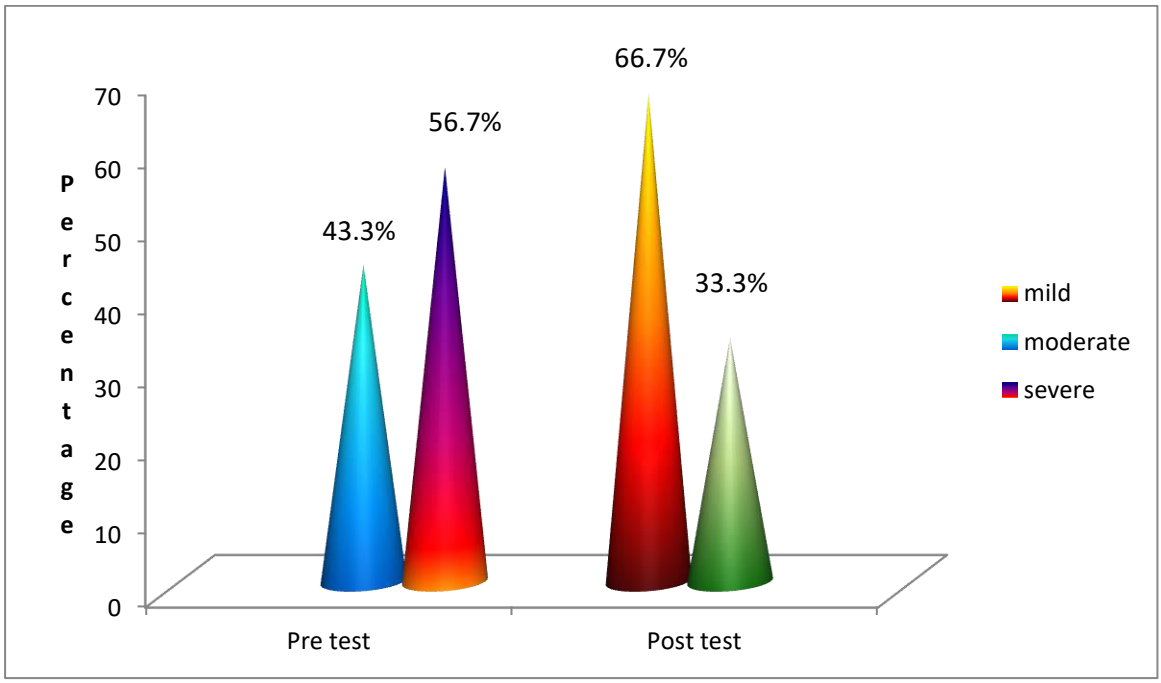

Figure 11 : Frequency and percentage distribution of sample according to the level of pain in experimental group

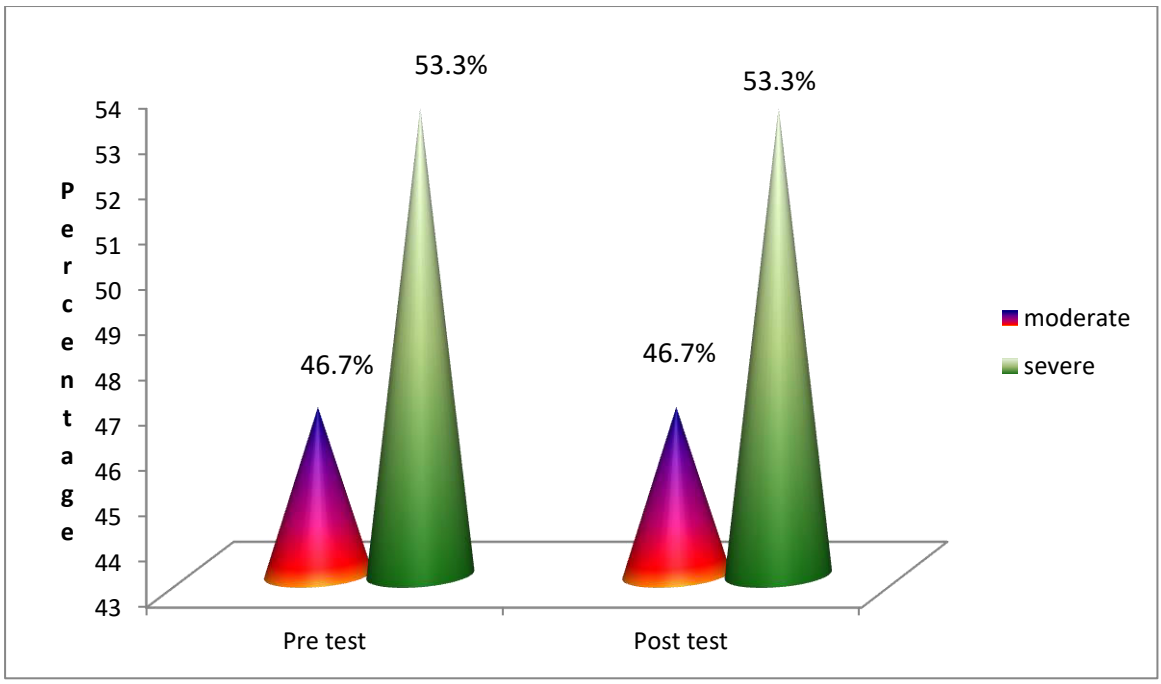

Figure 12 : Frequency and percentage distribution of sample according to the level of pain in control group

Table 6

Effectiveness of therapeutic back massage in reducing pain among post CABG patients in experimental and control group.

N=60

Study group	Pre test		Post test		Reduction in postoperative pain		't'	df	t value
	Mean	SD	Mean	SD	Mean	SD			
Experimental Group	25.1	4.04	10.4	6.13	14.7	7.571	10.63*	29	2.045
Control group	24.63	3.428	24.7	3.38	0.066	0.365	1	29	2.045

*Significant at $p<0.05$

The above table shows the effectiveness of therapeutic back massage in reducing the pain in experimental group and control group. The pre test mean of experimental group was 25.1 and in control group was 24.63 .the post test mean of experimental group was 10.4 and in control group was 24.7.

The reduction of pain from pre test to post test among experimental group was 14.7±7.571 and in control group was 0.066±0.365 . The mean reduction of pain in the experimental group was statistically significant ($t=10.63$, $df=29$ and $p<0.05$). But the mean reduction in pain in control group was not statistically significant ($t=1$, $df=29$ and $p>0.05$).

SECTION D

This section deals with association between level of sleep and the selected demographic variables

Table 7

Association between level of sleep and the selected demographic variables

Demographic variables	χ^2	df	Table value
Age group			
30-40 yrs	11.807*	2	5.99
41-50 yrs			
51-60 yrs			
Sex			
Male	0.429	1	3.84
Female			
Habits			
Smoking	3.928	3	7.81
Alcohol			
Tobacco use			
None			
No.of post OP days			
3rd post OP days	0.30	2	5.99
4th post OP days			
5th post OP days			

Rituals			
Milk	1.327	3	7.81
Fruits			
Drugs			
Water			
Duration of sleep			
0-2 hrs	0.674	2	5.99
3-5 hrs			
6-8 hrs			

*Significant at $p<0.05$

The above table shows the association between level of sleep with demographic variables both in experimental and control group. The result shows that there is an association between level of sleep and age group. So the research hypothesis (H_2) was accepted.

Table 8

Association between the Level of Pain and selected Demographic Variables

Demographic variables	χ^2	df	Table value
1. Age group			
30-40 yrs	0.188	2	5.99
41-50 yrs			
51-60 yrs			
2. Sex			
Male	0.825	1	3.84
Female			
3. Habits			
Smoking	2.069	3	7.81
Alcohol			
Tobacco use			
None			
4. No.of post Op days			
3rd post Op days	1.656	2	5.99
4th post Op days			
5th post Op days			
5. Rituals			
Milk	0.689	3	7.81
Fruits			
Drugs			
Water			

6. Duration of sleep			
0-2 hrs			
3-5 hrs	0.696	3	7.81
6-8 hrs			
More than 8 hrs			

The above table shows the association between level of pain with demographic variables both in experimental and control group. The result shows that there is no association between level of pain and demographic variables. So the research hypothesis (H_2) was rejected.

CHAPTER V

RESULTS AND DISCUSSION

The numerical analysis is provided with meaning in this chapter. The study findings are discussed with reference to the objectives of the study. The result and discussion of the study is based on the findings obtained by statistical analysis. The major findings of the study are as follows

OBJECTIVES OF THE STUDY

- To assess the pre test level of sleep and pain among post CABG patients in experimental and control group.
- To determine the effectiveness of therapeutic back massage in improving the level of sleep and reduction of pain among post CABG patients experimental group.
- To find out the association between the level of sleep and the selected demographic variables like age, sex, bed time rituals, habits.
- To find out the association between the level of pain and the selected demographic variables like age, sex, number of post op days, habits, bed time rituals.

Characteristics of the study subjects

The demographic variables of experimental and control group were matched in their age ,sex ,number of post op days ,bed time rituals ,habits ,duration of sleep.

The table 1 shows that majority of the sample subject were males in both experimental (83.3%) and control group (76.7%). In respect of age 33.3% of the subjects were between 41-50 yrs in experimental group and 26.7% of the subjects were between 41-50 yrs in control group. 30% of the subjects had the habit of alcoholism and 23.3% of the subjects had the habit of smoking and alcoholism.

The table shows the frequency and distribution of sample according to the level of sleep. In experimental group 86.7% had experienced poor level of sleep in pre test. In control group 66.7% experienced poor sleep in pre test. In experimental group 56.7% had experienced poor level of sleep in day 1. In control group 80% experienced poor sleep in day 1. In experimental group 76.7% experienced good level of sleep in day 2. In control group ,70% experienced poor sleep in day 2 .In experimental group76.7% experienced good level of sleep in day 3. In control group 76.7% experienced poor sleep in day 3.

The first objective of the study was to assess the pretest level of sleep and pain among post operative CABG patients in the experimental and control group

The table 2 shows the effectiveness of therapeutic back massage on level of sleep in experimental group and control group. The mean hours of sleep in experimental group at pre test was 3.86 and in control group was 4.73. So overall, in experimental group, 13.3% had experienced very poor level of sleep and 86.7% had experienced poor level of sleep in pre test. In control group, 10% had experienced

very poor level of sleep, 66.7% experienced poor sleep and 23.3% had good sleep in pre test.

The table 5 shows that in pre test, among experimental group, 56.7 % experienced severe pain and 43.3% had moderate pain and in control group ,53.3 % experienced severe pain and 46.7% experienced moderate pain.

The second objective was to determine the effectiveness of therapeutic back massage in improving the level of sleep and reduction of pain among post CABG patients experimental group.

The table 3 shows the effectiveness of therapeutic back massage on level of sleep in experimental group and control group. The mean hours of sleep in experimental group at pre test was 3.86 and in control group was 4.73. The mean hours of sleep in experimental group at day 1 was 5.2 and in control group was 5.

The table 6 shows the effectiveness of therapeutic back massage in reducing the pain in experimental group and control group. The pretest mean of experimental group was 25.1 and in control group was 24.63 .The post test mean of experimental group was 10.4 and in control group was 24.7.

The improvement in level of sleep from pre test to day 1 among experimental group was 1.33±0.479 and in control group was 0.266±0.739. The improvement in level of sleep in experimental group was statistically significant ($t=15.23$, $df=29$ and $p<0.05$). But the improvement in level of sleep in control group was not statistically significant ($t=1.975$, $df=29$ and $p>0.05$).

The improvement in level of sleep from pre test to day 2 among experimental group was 2.33±0.802 and in control group was 0.4±0.855. The improvement in level

of sleep in experimental group was statistically significant (t=15.93, df=29 and p<0.05). the improvement in level of sleep in control group also statistically significant (t=2.562, df=29 and p<0.05).

The improvement in level of sleep from pre test to day 3 among experimental group was 3.533±1.008 and in control group was 0.3±1.118. The improvement in level of sleep in experimental group was statistically significant (t=19.19, df=29 and p<0.05). But the improvement in level of sleep in control group was not statistically significant (t=1.469, df=29 and p>0.05).

The study findings are congruent with study conducted by Joys jasmine, kumara suguna Stella,[2013] conducted study on effectiveness of back massage therapy in promoting sleep quality among post operative patients after cardiac surgery. The findings of the study revealed significant changes in the sleep quality among post operative patients after cardiac surgery. the mean post test level [4.25] of sleep quality was higher than the pre test level [1.80] of sleep quality, likewise standard deviation post test level [0.41] and the t value of 10.971 which was satisfactory significant at p<0.05 level in experimental group after receiving back massage therapy.

The study findings are also congruent with study conducted by Nerbas Baggio Flavia[2010] was conducted a randomized control study to assess the effects of massage therapy on sleep quality after CABG .participants included CABG patients who are randomized into a control group and a massage therapy group following discharge from ICU. The patients were evaluated by using visual analogue scale, sleep diary. The study results include 57 CABG patients enrolled in the study during the preoperative period. 17 of them were excluded due to post operative

complications. the remaining 40 participants [male 67.5% ,age 61.9years ,BMI 27.2kg/m].the participants in the massage therapy group has fewer complaints of fatigue on day 1 [p=0.006]and day 2[p=0.028]in addition ,they reported more sleep effective during all three days [p=0.019]when compared with the control group. the study was concluded that massage therapy is an effective technique for improving patient recovery from CABG because it reduces fatigue and improves sleep.

The third objective of the study was to find out the association between the level of sleep and the selected demographic variables like age, sex, bed time rituals habits.

The table 7 shows the association between level of sleep with demographic variables both in experimental and control group. The result shows that there is an association between quality of sleep and age group. So the research hypothesis (H_2) was accepted.

The fourth objective was to find out the association between the level of pain and the selected demographic variables like age, sex, number of post op days, habits, and bed time rituals.

The table 8 shows the association between level of pain with demographic variables both in experimental and control group. The result shows that there is no association between level of pain and demographic variables. So the research hypothesis (H_2) was rejected.

The study findings are also congruent with study conducted by vishwajith Mathpati et al[2012]regarding effectiveness of Back massage in promoting sleep pattern of patients with cardiac surgery. The findings of the study regarding the

demographic variables include, the age group showed that maximum subjects 24[48%] belonged to older age group of 51-65 years, in education level most, of the subjects 18[36%], the gender category , it was found that 100% of subjects participated were male and in occupation, most of the subjects 11[22%] were daily wage worker. The results shows that there is an association between level of sleep with age group and sex were identified as significant correlates.

CHAPTER - VI

SUMMARY, CONCLUSION, NURSING IMPLICATION, LIMITATION AND RECOMMENDATION

SUMMARY OF THE STUDY

The study was undertaken to assess the effectiveness of therapeutic back massage in promotion of sleep and reduction of pain among post CABG patients admitted in the Sree Mookambika Medical College Hospital, Kulasekharam.

Objectives of the study

- To assess the pre test level of sleep and pain among post CABG patients in experimental and control group.
- To determine the effectiveness of therapeutic back massage in improving the level of sleep and reduction of pain among post CABG patients experimental group.
- To find out the association between the level of sleep and the selected demographic variables like age, sex, bed time rituals, habits.
- To find out the association between the level of pain and the selected demographic variables like age, sex, number of post op days, habits, bed time rituals.

HYPOTHESIS

- H1- There is a significant improvement on level of sleep among post CABG patients in experimental group than in control group.

- H2-There is a significant reduction in the level of pain among post CABG patients in experimental group than in control group.
- H3-there is significant association between the level of sleep and the selected demographic variables like age, sex, number of post op days, habits, duration of sleep, bed time rituals
- H4- There is a significant association between pain and the selected demographic variables like age ,sex, number of post op days, duration of sleep, habits, bed time rituals

METHODOLOGY

The researcher adopted a quantitative approach with two group pre test and post test design .The study was among 60 clients admitted in Sree Mookambika Medical College Hospital, Kulasekharam. In this study, independent variable is therapeutic back massage applied to post operative patients who had undergone CABG and dependent variable is level of sleep. The subjects were selected by purposive sampling technique 30 were allotted in Experimental group and 30 in Control group.

The tool used for the study was sleep assessment questionnaire, Sleep Diary, Barber Surgical Pain Scale.. Therapeutic Back Massage was given to the experimental group and routine nursing care was given to control group. Post test was conducted to the experimental and control group. The collected data were analyzed based on descriptive and inferential statistics according to the above mentioned objectives.

The study identifies that the level of sleep was improved in the experimental group than the control group. It was found that there was a significantly improvement in the level of sleep of experimental group after interventional strategy than in the

control group. The ‘t’ value for Comparing mean sleep was tabulated and found to be t= 14.22 [p<0.05].

The reduction of pain from pre test to post test among experimental group was 14.7±7.571 and in control group was 0.066±0.365 .The mean reduction of pain in the experimental group was statistically significant (t=10.63 , df=29 and p<0.05). But the mean reduction in pain in control group was not statistically significant (t=1, df=29 and p>0.05).

CONCLUSION

The conclusion drawn from the findings of the study are follows;

1. Therapeutic back massage found to be an effective nursing intervention in improving level of sleep among post CABG patients.

2. There is no side effects of therapeutic back massage when comparing with other pharmacological treatment.

3. Patients satisfaction is very much higher in this intervention.

4. The finding of the study enlighten the fact that therapeutic back massage can be used a cost effective nursing intervention in improving among the post CABG patients.

NURSING IMPLICATIONS

In Post operative insomnia and post operative pain, non pharmacological methods [therapeutic back massage]can be used to increase the effect of analgesics and sedatives. In many people pain medication can have unpleasant side effect

.Research indicate that massage can improve the sleep and can decrease the post operative pain and also therapeutic back massage has the potential to aid the improvement of sleep and pain relief.

Implications To Nursing Administration

1. This study helps the nurse administrator to assess the knowledge of nurses regarding complementary and alternative therapies.
2. The result of the study encourages the nurse administrator to conduct inservice education programmes on various types of massage in improving the level of sleep.
3. The nurse administrator can prepare the protocol regarding each massage sessions.
4. This helps the nurse administrator to develop and provide an effective non pharmacological measure for improving the level of sleep.
5. Nurse administrators can create awareness among nurses that massage is a very good cost effective nursing intervention to improve the sleep.

Implications Of Nursing Education

Alternative and complimentary therapy can be integrated as an adjuvant to the existing therapies in the nursing curriculum.

1. The nurse educator can train and encourage the student nurses to implement massage as a complementary and alternative therapy.
2. The study can motivate student nurses to explore new strategies for effective improvement of sleep.

3. This research report can be kept in library for reference of nursing personnel and other health care professional.
4. The nurse can take independent decision based on principles of healthcare.

Implications To Nursing Practice

The study findings can assist nurse in making more informed decisions and in taking actions that have a solid research based rationale.

1. Therapeutic back massage is a safe and better modality which has no side effects.

2. It is one of the cost effective nursing intervention that can add benefits to patients who are on pharmacological therapy.

3. Research can truthfully be used by nurse in planning care by integrating nursing intervention [therapeutic back massage] that are especially beneficial for patients with insomnia in any setting.

Implications to Nursing Research

The nurse research implications of the study lies in the scope for expending the quality of nursing service. In this area the evidence based practice publication of these studies will take nursing to a new horizon.

1. Nurse researcher can do various studies related to other beneficial effects of massage therapies to relieve the insomnia and pain.

2. A comprehensive study can be done to determine the effectiveness in level of sleep and pain with other alternative therapies.

3. Similar study can be conducted on a large sample. So it could be generalized.

LIMITATION OF THE STUDY

1. The sample size of patients for the experimental and related control group was only 30 and hence generalization not possible.

2. The data collection period was only one month

3. The study is limited only to the samples in Sree Mookambika Medical College Hospital, Kulasekharam.

RECOMMENDATIONS

1. Studies can be done to determine the other therapeutic benefits of massage therapy on level of sleep and pain.

2. A study can be conducted by including more number of variables.

3. Nurse researcher can do studies related to effect of massage therapy to improve quality care.

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3. http://www.amtamassage.org/approved position
4. http://dx.doi.org/10.1016/j.sleep.2015
5. www.sciedu.ca/jnep
6. http://www .sciencedirect.com
7. www.pubmed.org
8. www.worldwidewounds.com/painreliefsurgicalwound.2001
9. www.europepmc.org/impactofpostoperativepainonpatientsexperienceandrecovery.2001

APPENDIX : A

Approval Letter for Nursing Research by Institutional Review Board

SREE MOOKAMBIKA COLLEGE OF NURSING
(Approved by the Goverment of Tamil Nadu & Recognised by Indian Nursing Council, New Delhi, Tamil Nadu state Nurses & Midwives Council, Chennai.)
Affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai.
PADANILAM WELFARE TRUST, V.P.M.HOSPITAL COMPLEX, PADANILAM, KULASEKHARAM, K.K.DIST., TAMIL NADU, PIN : 629 161
Phone : 04651 - 280743, 280866, 280742, 280745

Date : 16-08-2016

ETHICAL COMMITTEE CLEARANCE Lr. No.

To

Ms. Sangeetha. N.S.,

I YR .M.Sc (N),

Sree Mookambika College of Nursing,

Kulasekharam.

Ref: Research Topic: "A Study to assess the effectiveness of therapeutic back massage in promotion of sleep and reduction of pain among post CABG patients admitted in Sree Mookambika Medical College Hospital Kulasekharam

Sub: Approval of the above reference study .

Dear Sangeetha. N.S.,

Ethics committee of Sree Mookambika College of Nursing, Kulasekharam reviewed and discussed the study proposal documents submitted by you related to the conduct of the above referenced study in the meeting held on 16-08-2016.

The following ethical committee Members were present at the meeting held on 16-08-2016.

NAME	PROFESSION	POSITION IN THE COMMITTEE
Prof. Mrs. Santhi Letha	Nursing	Chair Person
Dr. Kani Raj Peter	Medical	Basic Medical Scientist
Dr. T.C. Suguna	Nursing	Clinician
Adv. Mohanan	Legal	Legal Expert
Prof. Mrs.Ajitha Retnam	Nursing	Member secretary
Dr.P. Selva Raj	Management	Philosopher
Mr. Natarajan	Social	Medical Social Worker
Mrs. Latha	Lay Person	Community Person

After due ethical and scientific consideration, the ethics committee has approved the above presentation submitted by you.

Regards,

PRINCIPAL
Sree Mookambika College of Nursing
Kulasekharam-629 161

Mrs. Santhi Letha, PhD(N)

Ethics Committee Chairperson,

Sree Mookambika College of Nursing,

V.P.M. Complex, Padanilam, Kulasekharam.

Date : 16-08-2016

Place :Kulasekharam

APPENDIX : B

Permission Letter for Conducting the study

From

Sangeetha.N.S.

II Year M.Sc Nursing (Medical Surgical Nursing)

Sree Mookambika College of Nursing,

Kulasekharam

To

The Director,

Sree Mookambika College of Nursing,

Kulasekharam

Sub : Permission to conduct data Collection in Sree Mookambika Institute of Medical Sciences

Respected Madam,

Myself Sangeetha. N.S. M.Sc (N) II year student am writing this letter to inform you that I am planning to do my data collection for research in Sree Mookambika Medical College Hospital. So I Kindly request you to grant me permission to do the study and do the needful.

Thanking You

Yours Sincerely

Place : Kulasekharam

Date : 25-01-2017

Sangeetha. N.S.

II Year M.Sc (N)

APPENDIX : C

Letter Seeking Expert Opinion for Content and Tool validity

SREE MOOKAMBIKA COLLEGE OF NURSING
(Approved by the Goverment of Tamil Nadu & Recognised by Indian Nursing Council, New Delhi, Tamil Nadu state Nurses & Midwives Council, Chennai.)
Affiliated to The Tamil Nadu Dr. M.G.R. Medical University, Chennai.
PADANILAM WELFARE TRUST, V.P.M.HOSPITAL COMPLEX, PADANILAM, KULASEKHARAM, K.K.DIST., TAMIL NADU, PIN : 629 161
Phone : 04651 - 280743, 280866, 280742, 280745

Date :.....
Lr. No.

LETTER SEEKING EXPERT OPINION FOR TOOL VALIDITY

To

Madam/Sir

Sub : M.Sc Nursing Programme dissertation – Validation of study tool request – reg:

Ms/Mrs. **Sangeetha. N.S.** a bonafide if II Year M.Sc Nursing student of Sree Mookambika College of Nursing is approaching you to obtain validation of study tool pertaining to her dissertation in practical fulfillment of the requirement for the degree of Master of Science in Nursing. The selected topics **"A Study to assess the effectiveness of therapeutic back massage in promotion of sleep and reduction of pain among post CABG patients admitted in Sree Mookambika Medical College Hospital Kulasekharam".** In this regard I request you to kindly extent possible technical guidance and support for successful completion of dissertation.

I enclosed here with a check list for your evaluation.

Thanking You

Yours Sincerely

PRINCIPAL
PRINCIPAL
Sree Mookambika College of Nursing
Kulasekharam-629 161

APPENDIX : D

Massage Training Certificate

Dr. M.JERIN SUBHA,B.N.Y.S;M.Sc.,(Psy)
(Reg No.0164
Asst.Professor
Dept.of Physiology
Sree Ramakrishna Medical College of Naturopathy and Yogic Sciences,
Kulasekharam.

Plot No.26,
Holy Cross Nagar,
Nagercoil,
9489013941
E-mail:jerinjenix@yahoo.com

Date : 04-02-2017

This to certify that **Ms. Sangeetha N.S., M.Sc II nd** year student of Sree Mookambika College of Nursing has undergone one month Training Programme on Massage & Acupressure. I wish her all the Success in her future

Jerbha 4/2/17

Dr. M. JERIN SUBHA B.N.Y.S.
Reg. No.: 366,
PLOT No.-26, HOLYCROSS NAGAR,
NAGERCOIL-4, K.K.(Dist) T.N.

APPENDIX : E

Content Validity Certificate

EVALUATION TOOL CHECKLIST

Name of the expert: Dr. J.M. Jerlin Pelya

Designation: Principal

College: Annammal College of Nursing

Respected Madam/Sir,

Kindly go through the content and place the right (√) marks against the check list in the following columns ranking from relevant to non-relevant. Whatever there is a need for modification, kindly give your opinion in the remarks column.

DATE:

SIGNATURE

APPENDIX : F

List of Experts for Tool Validated

1. **Mrs.J.M Jerlin Priya.M.Sc(N),PhD**

   Principal

   Annammal College Of Nursing

2. **Mrs.Sharmila Jansi Rani .Msc (N)PhD**

   Professor

   Christain College Of Nursing

   Neyyoor

3. **Mrs.R.Mercy Russelin Prabha**

   Associate Professor

   Nims College Of Nursing

   Neyyattinkara

4. **Mrs.Ajitha Jyothis**

   Associate Professor

   CSI College Of Nursing

   Karakonam

APPENDIX : G

DATA COLLECTION TOOL

Section : A

Demographic variables

1. Age
   (a) 30 – 40 years
   (b) 41 – 50 years
   (c) 51-60 years
2. Sex
   (a) Female
   (b) Male
3. Personal Habites
   (a) Smoking
   (b) Alcohol
   (c) Tobacco use
   (d) Betel nut
   (e) None
4. No of Post of Day
   (a) 3rd Post OP Day
   (b) 4th Post of OP Day
   (c) 5th Post of OP Day
5. Bed time rituals
   (a) Milk
   (b) Drugs
   (c) Fruits
   (d) Water
6. Duration of Sleep
   (a) 0 to 2 hrs
   (b) 3 to 5 hrs
   (c) 6 to 8 hrs
   (d) More than 8 hrs

Section : B

Modified sleep assessment questionnaire

Please answer the following questions

Sl. No.	Content	Yes	No
1	Do you have difficulty in falling asleep at night?		
2	Do you find it difficult to stay asleep?		
3	Do you have sleep less than 7 hours at night?		
4	Do you require noise to fall in sleep (television, radio etc)?		
5	Do you require absolute silence in order to fall asleep?		
6	Do you wake up easily in between the sleep?		
7	Do you wake up during night?		
8	Do you feel poorly fatigued to wake up?		
9	Do you rely on an alarm to wake up?		
10	Do you rely on medications in order to get a better night's sleep?		
11	Do you feel poorly rested in the morning?		
12	Does any of the activities prevent you from getting enough sleep?		
13	Do you fall asleep unintentionally during day time?		
14	Do you have any difficulty in getting out of bed?		
15	Do you have repeated rhythmic jerks during sleep?		
16	Does any physical symptoms interfere your sleep?		
17	Do you have the habit of snoring during sleep?		
18	Do you have deep sleep?		
19	Do you have headache due to poor sleep?		
20	Do you feel refreshment in the morning?		

Score :

If your answer "yes" to 4 or more of the above questions reveals insomnia.

Modified From : Jericho Turnpike, Mineola, NY 11501

Section : C

Daily sleep diary

Complete the diary each morning ("Day 1" will be your first morning). Don't worry too much about giving exact answers, an estimate will do.

Your Name : _____ The date of day : _____

Sl. No.	Enter the Week day (Mon, Tues, Wed, etc)	Day 1	Day 2	Day 3
1.	At what time did you go to bed last night			
2	After Setting down, how long did it take you to fall a sleep?			
3	After falling a sleep, about how many times did you wakeup in the night.			
4	After falling a sleep, for how long were you awake during the night in total?			
5	At what time did you finally wake up?			
6	Which factors effect your sleep? (Pain, Noise)			
7	How long did you spend in bed last night (from first getting in to finally getting up?			
8	How would you rate in the quality of your sleep last night? 1 2 3 V-Poor Good V - Good			

0-2 Hours	-	Very Poor
3-5 Hours	-	Poor
6 - 8 Hours	-	Good
More than 8 Hours	-	Very Good

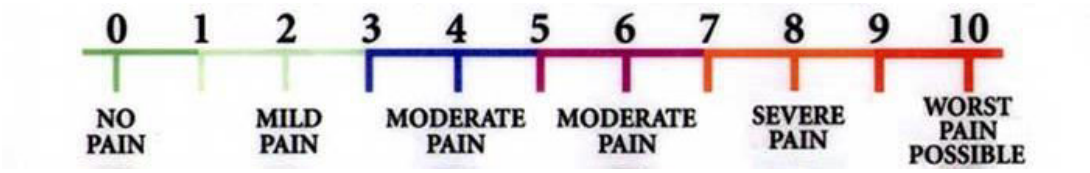
Loughborough Sleep Research Centre

Section : D

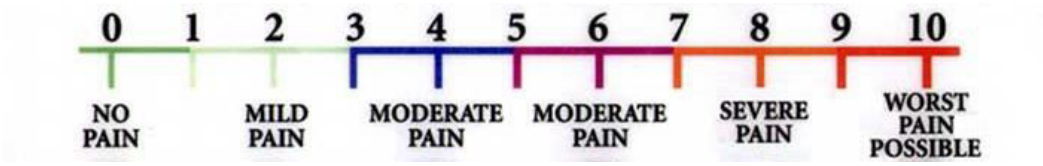
Modified Surgical Pain Scales

We want to know how much pain or discomfort you had within the last 24 hrs. Check the box below to indicate the average amount of pain or discomfort you experienced. For instance, If you did not have much pain today you would check a box near the words, No pain sensation. If you had a lot of pain today, you would check a box closer to the words, Most intense pain imaginable.

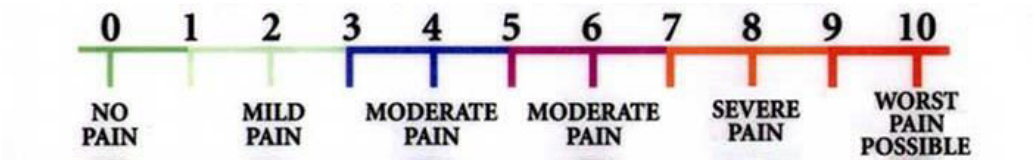
1. What was the average amount of pain you had when you were at rest?



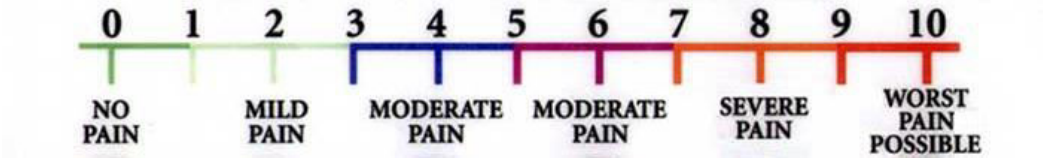
2. How much pain did you have during your normal activities?



3. How much pain did you have when you were exercising, doing strenuous work. I have not done any of these activities today.



4. How Unpleasent or disturbing was the worst pain that you had today?



Reviewed from Matthew D. Barber M.D, M.H.S.

EVALUATION TOOL CHECK LIST

Name of the expert:

Designation:

College:

Respected Madam/Sir,

Kindly go through the content and place the right (√) marks against the check list in the following columns ranking from relevant to non-relevant. Whatever there is a need for modification; kindly give your opinion in the remarks column.

DATE: SIGNATURE

APPENDIX : H

CHECKLIST FOR VALIDITY IN TOOL

Section : A

Demographic Variables

Item No	Relevant	Need Modification	Not Relevant	Remarks

Section : B

Modified Sleep Assessment Questionare

Item No	Relevant	Need Modification	Not Relevant	Remarks

Section : C

Daily Sleep Diary

Item No	Relevant	Need Modification	Not Relevant	Remarks

Section : D

Modified Surgical Pain Scale

Item No	Relevant	Need Modification	Not Relevant	Remarks

APPENDIX : I

INTERVENTION PACKAGE

Therapeutic Back Massage Therapy :

In this study, back massage is the intervention used by the researcher to improve the level of sleep. The investigator used five technique of back massage like circular kneading [4 minutes] ,effleurage for deep stroking[4 minutes] ,skin rolling [4 minutes], tapping [4 minutes] ,superficial stroking [4 minutes].which was applied to the participants in experimental group for 20 minutes .Massage was started from thoracic to lumbar region. The application of back massage was done 30 minutes before bed time for three consecutive days.

Selection of Place:

- Well ventilated
- Calm and pleasant place
- A clean, quiet room

Time for practise:

- 30 minutes before bed time
- Maintain regular time for practice daily.

Physical preparation:

- Body should be comfortable, relaxed and clean
- Patient privacy should be maintained

PROCEDURE

1.Circular kneading

It is a circular technique by which the skin and its underlying structure are moved in a circular rotating motion on the underlying structure of back. Tissue is lifted and rolled away from the bone, and then back towards the bone with a squeezing compressive action .It will take 4 minutes. This massage starts from thoracic to lumbar region.

2. Effleurage for deep stroking

Effleurage is the most basic massage and the movement is a relatively slow and smoothly continuous stroke using the flat of the hand. The fingers are generally held together and moulded to the contour of the client's body in a relaxed way. Although the fingers proceed the palm of the hand as it is moved along the body. This massage will take 4 minutes.

3.Skin rolling:

Skin rolling involves compressing soft tissues against each other or against the underlying bone. Skin rolling is a technique by which the skin is lifted and rolled between the fingers and thumbs of both hands. This massage will take 4 minutes.

4.Tapping

The tapping movement is much lighter than the other percussion movements the tips of the fingers are then used to gently tap the area. Tapping is usually gentile but with sufficient intensity to produce a slightly hollow sound on contact with the client.

5. Superficial stroking

Stroking the back of a patient suffering from insomnia the stroke should be from cervical or thoracic region downwards, or to the cervical or thoracic region upwards, never from sacrum to thoracic region and then out over the shoulder with a downward tendancy at the end.